



AIR EMISSIONS RISK ASSESSMENT



Adler Pelzer Group

**CAB Automotive Limited,
(Adler Pelzer Group),
Vaughan Trading Estate,
Sedgley Road, Tipton,
West Midlands,
DY4 7UJ**

**ECL Ref: ADPZ.01.07/H1 (Air)
Date: August 2026
Version: Issue 2**

TABLE OF CONTENTS

1. Air Quality Assessment	1
1.1 Overview	1
1.2. Summary of Results	2

LIST OF APPENDICES

Appendix I – Safety Data Sheets

Appendix II – Emissions Monitoring Survey Report (P6221 – R001, December 2025)

Appendix III – H1 Calculation Sheet

LIST OF ACRONYMS / TERMS USED

Adler	Adler Pelzer Group
AQA	Air Quality Assessment
AQS	Air Quality Standard
CAB	CAB Automotive Limited
EA	Environment Agency
EAL	Environmental Assessment Level
ECL	Environmental Compliance Limited
ELV	Emission Limit Value
H1	Air Emissions Risk Assessment Guidance
LA	Local Authority
PC	Process Contribution
RCP	Reciprocal Calculation Procedure
SB	Spray Booth
SDS	Safety Data Sheets
SMBC	Sandwell Metropolitan Borough Council
The Site	Cab Automotive Limited, Vaughan Trading Estate, Sedgley Road East, Tipton, West Midlands, DY4 7UJ
VOC	Volatile Organic Compounds
WEL	Workplace Exposure Limits

1. Air Quality Assessment

1.1 Overview

- 1.1.1. Environmental Compliance Limited (“ECL”) were commissioned by CAB Automotive Limited (“CAB”), part of the Adler Pelzer Group (“Adler”), to undertake an updated air quality assessment (“AQA”) to assist with a Schedule 5 Response to the Local Authority (“LA”) Sandwell Metropolitan Borough Council (“SMBC”) for CAB’s site located at Vaughan Trading Estate, Sedgley Road East, Tipton, West Midlands, DY4 7UJ (“the Site”).
- 1.1.2. This AQA has been undertaken making use of the Environment Agency’s (“EA’s”) online guidance *Air emissions risk assessment for your environmental permit*¹ (hereafter referred to as a “H1”).
- 1.1.3. The H1 assessment was undertaken to help ascertain the predicted impact of emissions of volatile organic compounds (“VOCs”) and isocyanates (as NCO) arising from the Site’s spray booths (“SB”) – namely: SB1 (i.e. Press 1), SB2 (i.e., Bentley Fabbing) and SB7 (i.e., McLaren Fabbing) and the six mould units associated with the PU Foam Line. It should be noted that two of the mould units (Box 5 and Box 6) are awaiting the extraction to be installed. In addition, during normal operation, it would be a rare event for all six mould units to operate concurrently. However, in the interest of assessing a worst-case scenario of the Site’s emissions to atmosphere, all six have been accounted for in the H1 calculations.
- 1.1.4. Following a review of the Safety Data Sheets (“SDS”) for the materials used in SB1, SB2, SB7 and the six PU Foam line mould units (i.e. Box 1 to Box 6) (see Appendix I), substances with declared air quality standards (“AQs”) or environmental assessment levels (“EALs”) were identified for comparison with the predicted process contributions (“PCs”). Where specific AQs or EALs were not defined in the EA guidance, appropriate assessment criteria were derived from Workplace Exposure Limits (“WELs”)².
- 1.1.5. In accordance with EH40/2005 (Paragraphs 85–89), complex hydrocarbon solvent fractions without a EH40 Table 1 entry have been evaluated using the Reciprocal Calculation Procedure (“RCP”). Amine constituents lacking dedicated EH40 entries were evaluated against established primary aliphatic amine workplace exposure limits (1.2 mg/m³ 8-hour TWA baseline) in accordance with EA risk assessment methodology.
- 1.1.6. In line with standard regulatory methodology, the short-term (15-minute) and long-term (8-hour) WELs were converted into environmental benchmarks by applying standard safety factors—dividing by 10 and 100 respectively—to account for continuous public exposure.
- 1.1.7. It should be noted that whilst formaldehyde is listed within the SDS entries for Alpha Adhesive (used in SB2 and SB7) and Specflex NE 138 (used in the PU Foam Line) (see Appendix I), a detailed chemical review confirms these entries represent non-volatile prepolymer resins (phenol/formaldehyde reaction products and polymeric MDI) rather than free, monomeric formaldehyde gas. Because these resin matrices do not generate volatile formaldehyde gas during ambient application, free formaldehyde has been excluded from point-source atmospheric emission calculations.

¹ Available online via: <https://www.gov.uk/guidance/air-emissions-risk-assessment-for-your-environmental-permit>

² Available online via: <https://www.hse.gov.uk/pubns/books/eh40.htm>

- 1.1.8. The assumed VOC emission limit value ("ELV") (of 50 mg/Nm³) for calculating the VOC emission rates for each SB was informed by Process Guidance Note 6/32(11) - *Statutory guidance for adhesive coating*³.
- 1.1.9. For the PU Foam Line, VOC release concentrations were evaluated using a conservative 100% mass-balance release model based on total annual VOC throughput of 155.25 kg/yr – distributed across Box 1 to Box 6. Individual constituent release concentrations of VOCs have been derived by scaling the total product baseline by each substance's upper-bound Safety Data Sheet concentration percentage
- 1.1.10. The assumed ELV (of 0.1 mg/Nm³) for calculating the isocyanate (as NCO) emission rates for each SB and the six mould units was informed by Process Guidance Note 6/29(12) – *Statutory Guidance for Di-isocyanate Processes*⁴.
- 1.1.11. For the three SBs, the volumetric flow rate data was obtained from the latest ECL stack emissions monitoring report for the Site (a copy of which may be found in Appendix II). For the six mould units (Box 1 to Box 6), as there is currently no monitored data this has been based on design specifications and assuming each emission point can achieve a 15 m/s exit velocity (which, based on stack exit diameters of 0.355m, equates to an approximate volumetric flow rate of 1.49 m³/s).

1.2. Summary of Results

- 1.2.1. It can be seen from the results presented in the H1 calculation sheet (see Appendix III) that the vast majority of the PCs screened out following Stage 1 screening (i.e. where the long-term PCs are less than 1% of the relevant long-term standard and the short-term PCs are less than 10% of the relevant short-term standard).
- 1.2.2. Where further assessment (i.e. Stage 2 calculations) was required for isocyanates (as NCO), it has been demonstrated that the combined long-term PEC is 13% of the relevant long-term standard and is well within the Stage 2 screening criteria (i.e. the PEC is less than 70% of the long-term standard).
- 1.2.3. For short-term isocyanates (as NCO), the combined short-term PC is 40%, exceeding the Stage 2 screening threshold. However, this screening figure assumes continuous maximum release at a conservative ELV benchmark of 0.1 mg/m³. In reality, the actual operational risk is anticipated to be negligible owing to the extremely low volatility of ambient MDI isocyanates.
- 1.2.4. Furthermore, for the PU Foam Line, the vast majority of the annual raw material isocyanate input will react and cure within the closed pour-head moulding unit to form the solid polyurethane matrix. In the absence of direct stack monitoring data, 100% mass release and simultaneous, concurrent operation across all emission points was conservatively assumed for initial screening. In practice, concurrent peak operation across all stacks is highly unlikely, and actual short-term process emissions from isocyanates are not predicted to cause an exceedance of the air quality standard.

³ Available online via: https://assets.publishing.service.gov.uk/media/5a75a9d3ed915d506ee808b8/adhesive-coating-including-footwear-manufacturing-process-guidance-note-6-32_11_.pdf

⁴ Available online via: https://assets.publishing.service.gov.uk/media/5a7f5628ed915d74e33f5cf1/di-isocyanate-processes-process-guidance-note-6-29_12_.pdf

APPENDIX I SAFETY DATA SHEETS

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture
 Product name : R-251 GRAFFITI REMOVER
 UFI : V4RR-E5FE-F00V-HRWV
 Product code : 002777064541
 Type of product : Detergent
 Vaporizer : Aerosol
 Product group : End product

1.2. Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses

Intended for general public
 Main use category : Industrial use, Professional use, Consumer use
 Use of the substance/mixture : Solvent cleaner, cold cleaner

1.3. Details of the supplier of the safety data sheet

TYGRIS LTD
 UNIT 31
 KYLE ROAD INDUSTRIAL ESTATE
 IRVINE
 SCOTLAND
 T 01294 311066
Jon.Butcher@tygrisindustrial.com

1.4. Emergency telephone number

Country/Area	Organisation/Company	Address	Emergency number	Comment
Ireland	National Poisons Information Centre Beaumont Hospital	PO Box 1297 Beaumont Road 9 Dublin	+353 1 809 2566 (Healthcare professionals- 24/7) +353 1 809 2166 (public, 8am - 10pm, 7/7)	

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Aerosol, Category 1 H222;H229
 Serious eye damage/eye irritation, Category 1 H318
 Specific target organ toxicity – Single exposure, Category 3, H336
 Narcosis
 Full text of H- and EUH-statements: see section 16

Adverse physicochemical, human health and environmental effects

Pressurised container: May burst if heated. Extremely flammable aerosol. May cause drowsiness or dizziness. Causes serious eye damage.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)



	GHS02	GHS05	GHS07
Signal word (CLP)	: Danger		
Contains	: n-butyl acetate; Acetone; 1,3-dioxolane		
Hazard statements (CLP)	: H222 - Extremely flammable aerosol.		
	H229 - Pressurised container: May burst if heated.		
Precautionary statements (CLP)	H318 - Causes serious eye damage.		
	H336 - May cause drowsiness or dizziness.		
	: P101 - If medical advice is needed, have product container or label at hand.		
	P102 - Keep out of reach of children.		
	P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.		
	No smoking.		
	P211 - Do not spray on an open flame or other ignition source.		
	P251 - Do not pierce or burn, even after use.		
	P261 - Avoid breathing vapours, spray.		
	P271 - Use only outdoors or in a well-ventilated area.		
	P280 - Wear protective gloves, eye protection.		
	P264 - Wash hands thoroughly after handling.		
	P312 - Call a POISON CENTER, doctor if you feel unwell.		
	P305+P351+P338+P310 - IF IN EYES: Rinse cautiously with water for several minutes.		
	Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER, a doctor.		
EUH-statements	P410+P412 - Protect from sunlight. Do not expose to temperatures exceeding 50 °C, 122 °F.		
	P501 - Dispose of contents/ container in accordance with local regulations.		
	: EUH066 - Repeated exposure may cause skin dryness or cracking.		
Child-resistant fastening	: Not applicable		
Tactile warning	: Not applicable		

2.3. Other hazards

Contains no PBT and/or vPvB substances $\geq 0.1\%$ assessed in accordance with REACH Annex XIII

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or substance(s) are not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Petroleum gases, liquefied (Contains < 0.1% 1,3-butadiene) substance with national workplace exposure limit(s) (BE, CZ, GB, GR, HR, TR) (Note K)	CAS-No.: 68476-85-7 EC-No.: 270-704-2 EC Index-No.: 649-202-00-6	25 – 50	Flam. Gas 1A, H220 Press. Gas
1,3-dioxolane substance with national workplace exposure limit(s) (BE, DE, ES, FI, HU, IE, LT, PL, PT, SI, CH)	CAS-No.: 646-06-0 EC-No.: 211-463-5 EC Index-No.: 605-017-00-2 REACH-no: 01-2119490744-29	25 – 50	Flam. Liq. 2, H225 Eye Dam. 1, H318
n-butyl acetate substance with national workplace exposure limit(s) (AT, BE, BG, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IT, LT, LU, LV, MT, NL, PL, PT, RO, SE, SI, SK, IS, MK, RS, CH); substance with a Community workplace exposure limit	CAS-No.: 123-86-4 EC-No.: 204-658-1 EC Index-No.: 607-025-00-1 REACH-no: 01-2119485493-29	10 – 20	Flam. Liq. 3, H226 STOT SE 3, H336 EUH066

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Acetone substance with national workplace exposure limit(s) (AT, BE, BG, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GI, GR, HR, HU, IE, IT, LT, LU, LV, MT, NL, PL, PT, RO, SE, SI, SK, AL, IS, NO, MK, RS, CH, TR); substance with a Community workplace exposure limit	CAS-No.: 67-64-1 EC-No.: 200-662-2 EC Index-No.: 606-001-00-8 REACH-no: 01-2119471330-49	10 – 20	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336 EUH066
Dimethoxymethane substance with national workplace exposure limit(s) (AT, BE, DE, DK, EE, ES, FI, FR, GB, GR, HR, IE, LV, PL, PT, RO, SI, IS, NO, MK, CH)	CAS-No.: 109-87-5 EC-No.: 203-714-2 REACH-no: 01-2119664781-31	5 – 10	Flam. Liq. 2, H225
2-methoxy-1-methylethyl acetate substance with national workplace exposure limit(s) (AT, BE, BG, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GI, GR, HR, HU, IE, IT, LT, LU, LV, MT, NL, PL, PT, RO, SE, SI, SK, AL, IS, NO, MK, RS, CH, TR); substance with a Community workplace exposure limit	CAS-No.: 108-65-6 EC-No.: 203-603-9 EC Index-No.: 607-195-00-7	5 – 10	Flam. Liq. 3, H226
2-methoxypropyl acetate substance with national workplace exposure limit(s) (AT, CZ, DE, DK, ES, PL, SI, SK, IS, NO, MK, CH)	CAS-No.: 70657-70-4 EC-No.: 274-724-2 EC Index-No.: 607-251-00-0	0.005 – 0.05	Flam. Liq. 3, H226 Repr. 1B, H360D STOT SE 3, H335

Note K: The harmonised classification as a carcinogen or mutagen applies unless it can be shown that the substance contains less than 0,1 % w/w 1,3- butadiene (Einecs No 203-450-8), in which case a classification in accordance with Title II of this Regulation shall be performed also for those hazard classes. Where the substance is not classified as a carcinogen or mutagen, at least the precautionary statements (P102)-P210-P403 shall apply.

Product subject to CLP Annex I, item 1.1.3.7. The disclosure rules of the components is modified in this case.

Full text of H- and EUH-statements: see section 16

Detergent Regulation (648/2004)

Ingredient data sheet		
Component	CAS-No.	%
Petroleum gases, liquefied; Petroleum gas; [A complex combination of hydrocarbons produced by the distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of C3 through C7 and boiling in the range of approximately– 40°C to 80°C (– 40°F to 176°F).]	68476-85-7	≥10%
DIOXOLANE	646-06-0	≥10%
BUTYL ACETATE	123-86-4	≥10%
ACETONE	67-64-1	≥10%
METHYLAL	109-87-5	1 - 10%
METHOXYISOPROPYL ACETATE	108-65-6	1 - 10%
TRIDECETH-10	24938-91-8	0.1 - 1%
2-methoxypropyl acetate	70657-70-4	<0.1%

Labelling of contents	
Component	%
aliphatic hydrocarbons	≥30%

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Call a poison center or a doctor if you feel unwell.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Wash skin with plenty of water.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
First-aid measures after ingestion	: Call a poison center or a doctor if you feel unwell.
First-aid measures for first aider	: First aid workers will be equipped with suitable personal protective equipment.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects	: May cause drowsiness or dizziness.
Symptoms/effects after inhalation	: None under normal conditions.
Symptoms/effects after skin contact	: None under normal conditions.
Symptoms/effects after eye contact	: Serious damage to eyes.
Symptoms/effects after ingestion	: None under normal conditions.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Water spray. Dry powder. Foam. Carbon dioxide.
Unsuitable extinguishing media	: Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: Extremely flammable aerosol.
Explosion hazard	: Pressurised container: May burst if heated.
Hazardous decomposition products in case of fire	: Toxic fumes may be released.

5.3. Advice for firefighters

Firefighting instructions	: Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.
Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	: Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material damage.
------------------	--

For non-emergency personnel

Protective equipment	: Wear recommended personal protective equipment.
Emergency procedures	: Ventilate spillage area. No open flames, no sparks, and no smoking. Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes.

For emergency responders

Protective equipment	: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures	: Evacuate unnecessary personnel. Stop leak if safe to do so.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment	: Absorb spilled material with sand or earth. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak without risks if possible.
Methods for cleaning up	: Mechanically recover the product.
Other information	: Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed	: Not expected to present a significant hazard under anticipated conditions of normal use.
Precautions for safe handling	: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. Use only outdoors or in a well-ventilated area. Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes. Wear personal protective equipment.
Hygiene measures	: Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures	: Keep in a cool, well-ventilated place away from heat.
Storage conditions	: Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F. Store locked up. Store in a well-ventilated place. Keep container tightly closed.
Packaging materials	: Store always product in container of same material as original container.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

National occupational exposure and biological limit values

2-methoxy-1-methylethyl acetate (108-65-6)

EU - Indicative Occupational Exposure Limit (IOEL)

Local name	2-Methoxy-1-methylethylacetate
IOEL TWA	275 mg/m ³
	50 ppm
IOEL STEL	550 mg/m ³
	100 ppm
Remark	Skin
Regulatory reference	COMMISSION DIRECTIVE 2000/39/EC

Ireland - Occupational Exposure Limits

Local name	2-Methoxy-1-methylethylacetate
OEL TWA	275 mg/m ³
	50 ppm
OEL STEL	550 mg/m ³

2-methoxy-1-methylethyl acetate (108-65-6)	
	100 ppm
Remark	Sk (Substances which have the capacity to penetrate intact skin when they come in contact with it, and be absorbed into the body), IOELV (Indicative Occupational Exposure Limit Values)
Regulatory reference	Chemical Agents Code of Practice 2021
n-butyl acetate (123-86-4)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	n-Butyl acetate
IOEL TWA	241 mg/m ³
	50 ppm
IOEL STEL	723 mg/m ³
	150 ppm
Regulatory reference	COMMISSION DIRECTIVE (EU) 2019/1831
Ireland - Occupational Exposure Limits	
Local name	n-Butyl acetate
OEL TWA	241 mg/m ³
	50 ppm
OEL STEL	723 mg/m ³
	150 ppm
Remark	IOELV (Indicative Occupational Exposure Limit Values)
Regulatory reference	Chemical Agents Code of Practice 2021
Acetone (67-64-1)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Acetone
IOEL TWA	1210 mg/m ³
	500 ppm
Regulatory reference	COMMISSION DIRECTIVE 2000/39/EC
Ireland - Occupational Exposure Limits	
Local name	Acetone
OEL TWA	1210 mg/m ³
	500 ppm
Remark	IOELV (Indicative Occupational Exposure Limit Values)
Regulatory reference	Chemical Agents Code of Practice 2021
Ireland - Biological limit values	
Local name	Acetone
BMGV	50 mg/l Parameter: acetone - Medium: urine - Sampling time: End of shift - Notations: Ns (Non-specific)
Regulatory reference	Biological Monitoring Guidelines (HSA, 2011)

Dimethoxymethane (109-87-5)

Ireland - Occupational Exposure Limits

Local name	Methylal [Dimethoxymethane]
OEL TWA	3100 mg/m ³ 1000 ppm
Regulatory reference	Chemical Agents Code of Practice 2021

1,3-dioxolane (646-06-0)

Ireland - Occupational Exposure Limits

Local name	1,3-Dioxolane
OEL TWA	20 ppm
Regulatory reference	Chemical Agents Code of Practice 2021

8.2. Exposure controls

Appropriate engineering controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

Personal protection equipment

Personal protective equipment:

Wear recommended personal protective equipment.

Personal protective equipment symbol(s):



Eye and face protection

Eye protection:

Safety glasses

Eye protection

Type	Field of application	Characteristics	Standard
Safety glasses			EN 166

Skin protection

Skin and body protection:

Wear suitable protective clothing

Skin and body protection

Type	Standard
protective clothing	EN ISO 6530

Hand protection:

Protective gloves

Hand protection

Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Disposable gloves, Reusable gloves					EN 374-2

Respiratory protection

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

Environmental exposure controls

Environmental exposure controls:

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: clear.
Appearance	: Aerosol.
Odour	: Not available
Odour threshold	: Not available
Melting point	: Not applicable
Freezing point	: Not available
Boiling point	: -40 – -2 °C (LPG)
Flammability	: Extremely flammable aerosol.
Explosive properties	: Pressurised container: May burst if heated.
Lower explosion limit	: 1.4 vol % (LPG)
Upper explosion limit	: 10.9 vol % (LPG)
Flash point	: < -40 °C
Auto-ignition temperature	: 365 °C (LPG)
Decomposition temperature	: Not available
pH	: Not available
Viscosity, kinematic	: Not available
Solubility	: Not available
Partition coefficient n-octanol/water (Log Kow)	: Not available
Vapour pressure	: 590 – 1760 kPa (LPG)
Vapour pressure at 50°C	: Not available
Density	: Not available
Relative density	: Not available
Relative vapour density at 20°C	: Not available
Particle characteristics	: Not applicable

9.2. Other information

Information with regard to physical hazard classes

% of flammable ingredients : 98.93607175 %

Other safety characteristics

Volatility : Volatile

SECTION 10: Stability and reactivity

10.1. Reactivity

Extremely flammable aerosol. Pressurised container: May burst if heated.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral) : Not classified
 Acute toxicity (dermal) : Not classified
 Acute toxicity (inhalation) : Not classified

2-methoxy-1-methylethyl acetate (108-65-6)

LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Remarks on results: other:
-----------------	--

Acetone (67-64-1)

LD50 oral rat	5800 mg/kg bodyweight Animal: rat, Animal sex: female
LC50 Inhalation - Rat	76 mg/l air Animal: rat, Animal sex: female, 95% CL: 65,2 - 88,4

Dimethoxymethane (109-87-5)

LD50 oral rat	6423 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 423 (Acute Oral toxicity - Acute Toxic Class Method)
LD50 dermal rabbit	> 5000 mg/kg bodyweight Animal: rabbit, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)

1,3-dioxolane (646-06-0)

LD50 oral rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity), Remarks on results: other:
LC50 Inhalation - Rat	68.4 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity), 95% CL: 61 - 76,6

Skin corrosion/irritation : Not classified
 Serious eye damage/irritation : Causes serious eye damage.
 Respiratory or skin sensitisation : Not classified
 Germ cell mutagenicity : Not classified
 Carcinogenicity : Not classified
 Reproductive toxicity : Not classified
 STOT-single exposure : May cause drowsiness or dizziness.

n-butyl acetate (123-86-4)

STOT-single exposure	May cause drowsiness or dizziness.
----------------------	------------------------------------

Acetone (67-64-1)

STOT-single exposure	May cause drowsiness or dizziness.
----------------------	------------------------------------

2-methoxypropyl acetate (70657-70-4)

STOT-single exposure	May cause respiratory irritation.
----------------------	-----------------------------------

STOT-repeated exposure : Not classified

2-methoxy-1-methylethyl acetate (108-65-6)

NOAEL (dermal, rat/rabbit, 90 days)	> 1000 mg/kg bodyweight Animal: rabbit, Guideline: OECD Guideline 410 (Repeated Dose Dermal Toxicity: 21/28-Day Study)
-------------------------------------	--

1,3-dioxolane (646-06-0)	
NOAEL (oral, rat, 90 days)	75 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity Study in Rodents)

Petroleum gases, liquefied (Contains < 0.1% 1,3-butadiene) (68476-85-7)	
LOAEC (inhalation, rat, gas, 90 days)	12000 ppm Animal: rat, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test), Guideline: other:

Aspiration hazard : Not classified

R-251 GRAFFITI REMOVER	
Vaporizer	Aerosol
Not able to form a pool	Yes

1,3-dioxolane (646-06-0)	
Viscosity, kinematic	> 9.434 mm ² /s

11.2. Information on other hazards

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

Hazardous to the aquatic environment, short-term (acute) : Not classified

Hazardous to the aquatic environment, long-term (chronic) : Not classified

2-methoxy-1-methylethyl acetate (108-65-6)	
LC50 - Fish [1]	> 100 mg/l Test organisms (species): Oryzias latipes
EC50 - Crustacea [1]	> 500 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	> 1000 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
NOEC (chronic)	≥ 100 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic fish	47.5 mg/l Test organisms (species): Oryzias latipes Duration: '14 d'

n-butyl acetate (123-86-4)	
EC50 - Other aquatic organisms [1]	32 mg/l Test organisms (species): Artemia salina
EC50 72h - Algae [1]	674.7 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)

Acetone (67-64-1)	
LOEC (chronic)	> 79 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	≥ 79 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

Dimethoxymethane (109-87-5)	
LC50 - Fish [1]	> 1000 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)
EC50 - Crustacea [1]	> 1200 mg/l Test organisms (species): Daphnia magna

Dimethoxymethane (109-87-5)	
EC50 72h - Algae [1]	9120 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
EC50 96h - Algae [1]	874.12 mg/l Test organisms (species): other:
NOEC (chronic)	150.5 mg/l Test organisms (species): Daphnia magna Duration: '30 d'
NOEC chronic fish	450281 mg/l Test organisms (species): other: Duration: '30 d'
1,3-dioxolane (646-06-0)	
LC50 - Fish [1]	> 95.4 mg/l Test organisms (species): Lepomis macrochirus
EC50 - Crustacea [1]	> 772 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	> 877 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
NOEC (chronic)	197.4 mg/l Test organisms (species): other:
NOEC chronic fish	546.3 mg/l Test organisms (species): no data Duration: '30 d'
Petroleum gases, liquefied (Contains < 0.1% 1,3-butadiene) (68476-85-7)	
LC50 - Fish [1]	0.362 mg/l
EC50 - Crustacea [1]	0.018 mg/l
ErC50 algae	7.6 mg/l Source: ECOTOX

12.2. Persistence and degradability

R-251 GRAFFITI REMOVER	
Persistence and degradability	Not rapidly degradable
2-methoxy-1-methylethyl acetate (108-65-6)	
Persistence and degradability	Not rapidly degradable
n-butyl acetate (123-86-4)	
Persistence and degradability	Rapidly degradable
Biodegradation	83 %
Acetone (67-64-1)	
Persistence and degradability	Not rapidly degradable
2-methoxypropyl acetate (70657-70-4)	
Persistence and degradability	Not rapidly degradable
Dimethoxymethane (109-87-5)	
Persistence and degradability	Not rapidly degradable
1,3-dioxolane (646-06-0)	
Persistence and degradability	Not rapidly degradable
Petroleum gases, liquefied (Contains < 0.1% 1,3-butadiene) (68476-85-7)	
Persistence and degradability	Rapidly degradable

12.3. Bioaccumulative potential

Petroleum gases, liquefied (Contains < 0.1% 1,3-butadiene) (68476-85-7)	
Partition coefficient n-octanol/water (Log Pow)	≤ 2.8 Source: IUCLID

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional waste regulation	: Disposal must be done according to official regulations.
Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Sewage disposal recommendations	: Disposal must be done according to official regulations.
Product/Packaging disposal recommendations	: Disposal must be done according to official regulations.
Additional information	: Do not re-use empty containers.
HP Code	: HP3 - "Flammable:" – flammable liquid waste: liquid waste having a flash point below 60 °C or waste gas oil, diesel and light heating oils having a flash point > 55 °C and ≤ 75 °C; – flammable pyrophoric liquid and solid waste: solid or liquid waste which, even in small quantities, is liable to ignite within five minutes after coming into contact with air; – flammable solid waste: solid waste which is readily combustible or may cause or contribute to fire through friction; – flammable gaseous waste: gaseous waste which is flammable in air at 20 °C and a standard pressure of 101.3 kPa; – water reactive waste: waste which, in contact with water, emits flammable gases in dangerous quantities; – other flammable waste: flammable aerosols, flammable self-heating waste, flammable organic peroxides and flammable self-reactive waste. HP4 - "Irritant – skin irritation and eye damage:" waste which on application can cause skin irritation or damage to the eye.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
UN 1950	UN 1950	UN 1950	UN 1950	UN 1950
14.2. UN proper shipping name				
AEROSOLS	AEROSOLS	Aerosols, flammable	AEROSOLS	AEROSOLS
Transport document description				
UN 1950 AEROSOLS, 2.1, (D)	UN 1950 AEROSOLS, 2.1	UN 1950 Aerosols, flammable, 2.1	UN 1950 AEROSOLS, 2.1	UN 1950 AEROSOLS, 2.1
14.3. Transport hazard class(es)				
2.1	2.1	2.1	2.1	2.1

ADR	IMDG	IATA	ADN	RID
				
14.4. Packing group				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.5. Environmental hazards				
Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: No EmS-No. (Fire): F-D EmS-No. (Spillage): S-U	Dangerous for the environment: No	Dangerous for the environment: No	Dangerous for the environment: No
No supplementary information available				

14.6. Special precautions for user

Overland transport

Classification code (ADR)	: 5F
Special provisions (ADR)	: 190, 327, 344, 625
Limited quantities (ADR)	: 1I
Excepted quantities (ADR)	: E0
Packing instructions (ADR)	: P207, LP200
Special packing provisions (ADR)	: PP87, RR6, L2
Mixed packing provisions (ADR)	: MP9
Transport category (ADR)	: 2
Special provisions for carriage - Packages (ADR)	: V14
Special provisions for carriage - Loading, unloading and handling (ADR)	: CV9, CV12
Special provisions for carriage - Operation (ADR)	: S2
Tunnel restriction code (ADR)	: D

Transport by sea

Special provisions (IMDG)	: 63, 190, 277, 327, 344, 381, 959
Limited quantities (IMDG)	: SP277
Excepted quantities (IMDG)	: E0
Packing instructions (IMDG)	: P207, LP200
Special packing provisions (IMDG)	: PP87, L2
Stowage category (IMDG)	: None
Stowage and handling (IMDG)	: SW1, SW22
Segregation (IMDG)	: SG69

Air transport

PCA Excepted quantities (IATA)	: E0
PCA Limited quantities (IATA)	: Y203
PCA limited quantity max net quantity (IATA)	: 30kgG
PCA packing instructions (IATA)	: 203
PCA max net quantity (IATA)	: 75kg
CAO packing instructions (IATA)	: 203
CAO max net quantity (IATA)	: 150kg
Special provisions (IATA)	: A145, A167, A802
ERG code (IATA)	: 10L

Inland waterway transport

Classification code (ADN)	: 5F
Special provisions (ADN)	: 190, 327, 344, 625
Limited quantities (ADN)	: 1 L
Excepted quantities (ADN)	: E0

Equipment required (ADN) : PP, EX, A
Ventilation (ADN) : VE01, VE04

Rail transport

Classification code (RID) : 5F
Special provisions (RID) : 190, 327, 344, 625
Limited quantities (RID) : 1L
Excepted quantities (RID) : E0
Packing instructions (RID) : P207, LP200
Special packing provisions (RID) : PP87, RR6, L2
Mixed packing provisions (RID) : MP9
Transport category (RID) : 2
Special provisions for carriage – Packages (RID) : W14
Special provisions for carriage - Loading, unloading and handling (RID) : CW9, CW12
Colis express (express parcels) (RID) : CE2
Hazard identification number (RID) : 23

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information
15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
EU-Regulations
REACH Annex XVII (Restriction List)

Contains no substance(s) listed on REACH Annex XVII (Restriction Conditions)

REACH Annex XIV (Authorisation List)

Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Contains no substance(s) listed on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

POP Regulation (Persistent Organic Pollutants)

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

Ozone Regulation (2024/590)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 2024/590 on substances that deplete the ozone layer)

Council Regulation (EC) for the control of dual-use items

Contains no substance subject to the COUNCIL REGULATION (EC) for the control of dual-use items

Detergent Regulation (648/2004)

Contains no ingredient(s) required to be listed according to the Detergent Regulation (648/2004).

Explosives Precursors Regulation (2019/1148)

Contains substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

ANNEX II REPORTABLE EXPLOSIVES PRECURSORS

List of substances on their own or in mixtures or in substances for which suspicious transactions and significant disappearances and thefts are to be reported within 24 hours.

Name	CAS-No.	Combined Nomenclature code (CN)	Combined Nomenclature code for mixture without constituents which would determine classification under another CN code
Acetone	67-64-1	2914 11 00	ex 3824 99 92

Drug Precursors Regulation (273/2004)

Contains substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

Name	CN designation	CAS-No.	CN code	Category, Subcategory	Threshold	Annex
Acetone		67-64-1	2914 11 00	Category 3		Annex I

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Abbreviations and acronyms:	
ACGIH	American Conference of Government Industrial Hygienists
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
CAS-No.	Chemical Abstract Service number
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
COD	Chemical oxygen demand (COD)
CSA	Chemical safety assessment
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
ED	Endocrine disruptor
EN	European Standard
EWC	European waste catalogue
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
Log Kow	Partition coefficient n-octanol/water (Log Kow)
Log Pow	Partition coefficient n-octanol/water (Log Pow)
MAK	maximum workplace concentration
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level

Abbreviations and acronyms:

NOEC	No-Observed Effect Concentration
N.O.S.	Not Otherwise Specified
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
OSHA	Occupational Safety Health Administration
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
PPE	Personal protection equipment
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
TF	Technical function
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
TWA	Time Weighted Average
VOC	Volatile Organic Compounds
vPvB	Very Persistent and Very Bioaccumulative
UFI	Unique Formula Identifier

Full text of H- and EUH-statements:

Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Gas 1A	Flammable gases, Category 1A
Flam. Liq. 2	Flammable liquids, Category 2
Flam. Liq. 3	Flammable liquids, Category 3
Press. Gas	Gases under pressure
Repr. 1B	Reproductive toxicity, Category 1B
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Narcosis
H220	Extremely flammable gas.
H222	Extremely flammable aerosol.
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H229	Pressurised container: May burst if heated.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H360D	May damage the unborn child.
EUH066	Repeated exposure may cause skin dryness or cracking.

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Aerosol 1	H222;H229	On basis of test data
Eye Dam. 1	H318	Calculation method
STOT SE 3	H336	Calculation method

The classification complies with : ATP 12

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.



SECTION 1: Identification of the substance/mixture and of the company/undertaking

- **1.1 Product identifier**
- **Trade name:** *thermonex® 063-05A*
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
- **Product category** PC1 Adhesives, sealants
- **Application of the substance / the mixture** Adhesives
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
H.B. Fuller, Isar-Rakoll, S.A.
Estrada Nacional 13
PT-4486-851 Mindelo - Vila do Conde
+351 229 288 200
EU-MSDS@hbfuller.com
- **Informing department:** Regulatory Department
- **1.4 Emergency telephone number:**
NCEC emergency service
+44 (0) 1235 239 670 (24 hours)

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**
The product is not classified according to the CLP regulation.
- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008** Void
- **Hazard pictograms** Void
- **Signal word** Void
- **Hazard statements** Void
- **Additional information:**
Contains 1,2-benzisothiazol-3(2H)-one, mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1). May produce an allergic reaction.
Safety data sheet available on request.
- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

- **3.2 Chemical characterisation: Mixtures**
- **Description:** Adhesive.
- **Dangerous components:** Void
- **Additional information** For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **After inhalation** Supply fresh air; consult doctor in case of symptoms.
- **After skin contact** Instantly wash with water and soap and rinse thoroughly.

(Contd. on page 2)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 19.04.2018

Version number 6

Revision: 19.04.2018

Trade name: **thermonex® 063-05A**

(Contd. of page 1)

- **After eye contact**
Rinse opened eye for several minutes under running water. If symptoms persist, consult doctor.
- **After swallowing** *Do not induce vomiting; instantly call for medical help.*
- **4.2 Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents**
Use fire fighting measures that suit the environment.
Water haze
Foam
Fire-extinguishing powder
Carbon dioxide
- **5.2 Special hazards arising from the substance or mixture** *Can be released in case of fire*
- **5.3 Advice for firefighters**
- **Protective equipment:** *Wear self-contained breathing apparatus.*
- **Additional information** *Collect contaminated fire fighting water separately. It must not enter drains.*

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Ensure adequate ventilation
- **6.2 Environmental precautions:**
Do not allow to enter drainage system, surface or ground water.
Dilute with much water.
- **6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **6.4 Reference to other sections**
See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling** *Keep containers tightly sealed.*
- **Information about protection against explosions and fires:** *No special measures required.*
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and containers:** *Prevent any penetration into the ground.*
- **Information about storage in one common storage facility:** *Store away from foodstuffs.*
- **Further information about storage conditions:**
Protect from frost.
Protect from heat and direct sunlight.
Store in cool, dry conditions in original sealed container
- **7.3 Specific end use(s)** *No further relevant information available.*

GB

(Contd. on page 3)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 19.04.2018

Version number 6

Revision: 19.04.2018

Trade name: **thermonex® 063-05A**

(Contd. of page 2)

SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **8.1 Control parameters**
- **Components with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during the compilation were used as basis.
- **8.2 Exposure controls**
- **Personal protective equipment**
- **General protective and hygienic measures**
The usual precautionary measures should be adhered to general rules for handling chemicals.
Keep away from foodstuffs, beverages and food.
Wash hands during breaks and at the end of the work.
- **Breathing equipment:** Not necessary if room is well-ventilated.
- **Protection of hands:**



Protective gloves.

- **Material of gloves**
Nitrile rubber, NBR
Recommended thickness of the material: ≥ 0.4 mm
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**
The information is based on literature data and information of glove manufacturers.
- **Eye protection:**



Tightly sealed safety glasses.

- **Body protection:** Protective work clothing.

SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

Form:	Fluid
Colour:	White
Odour:	Light
Odour threshold:	Not determined.

- **pH-value at 20 °C:** 7.7

- **Change in condition**

Melting point/freezing point:	Not determined
Initial boiling point and boiling range:	100 °C (DIN 53171)

(Contd. on page 4)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 19.04.2018

Version number 6

Revision: 19.04.2018

Trade name: **thermonex® 063-05A**

(Contd. of page 3)

· Flash point:	Not applicable
· Inflammability (solid, gaseous)	Not applicable.
· Decomposition temperature:	Not determined.
· Self-inflammability:	Product is not selfigniting.
· Explosive properties:	Product is not explosive.
· Critical values for explosion:	
Lower:	Not determined.
Upper:	Not determined.
· Vapour pressure at 20 °C:	23 hPa (DIN 51640)
· Density at 20 °C	ca. 1.08 g/cm ³ (DIN 51757)
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with Water:	Fully miscible
· Partition coefficient: n-octanol/water:	Not determined.
· Viscosity:	
dynamic at 23 °C:	6750 mPas (Brookfield (ISO 2555))
kinematic:	Not determined.
· Solvent content:	
Organic solvents:	0.9 %
Solids content:	45.0 % (ISO 3251)
· 9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity** Based on available data, the classification criteria are not met.
- **Primary irritant effect:**
- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.

(Contd. on page 5)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 19.04.2018

Version number 6

Revision: 19.04.2018

Trade name: **thermonex® 063-05A**

(Contd. of page 4)

- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water.
Do not allow product to reach ground water, water bodies or sewage system.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation** Must be specially treated under adherence to official regulations.

· European waste catalogue

08 00 00	WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS
08 04 00	wastes from MFSU of adhesives and sealants (including waterproofing products)
08 04 16	aqueous liquid waste containing adhesives or sealants other than those mentioned in 08 04 15

- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleaning agent:** Water, if necessary with cleaning agent.

SECTION 14: Transport information

- | | |
|---|------|
| <ul style="list-style-type: none"> · 14.1 UN-Number · ADR, ADN, IMDG, IATA | Void |
| <ul style="list-style-type: none"> · 14.2 UN proper shipping name · ADR, ADN, IMDG, IATA | Void |
| <ul style="list-style-type: none"> · 14.3 Transport hazard class(es) · ADR, ADN, IMDG, IATA · Class | Void |

(Contd. on page 6)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 19.04.2018

Version number 6

Revision: 19.04.2018

Trade name: **thermonex® 063-05A**

(Contd. of page 5)

· 14.4 Packing group	
· ADR, IMDG, IATA	Void
· 14.5 Environmental hazards:	
· Marine pollutant:	No
· 14.6 Special precautions for user	Not applicable.
· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	Not dangerous according to the above specifications.
· ADR	
· Remarks:	No dangerous good in accordance to the ADR-regulations.
· UN "Model Regulation":	Void

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **National regulations**
- **Technical instructions (air):**

Class	Share in %
NK	0,1-1
- **Water hazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.
- **VOC (EU) %** 0.86 %
- **VOC (EU)** 22.4 g/l
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing data specification sheet:**
Environment, Health & Safety Department
Regulatory department
- **Contact:** EU-MSDS@hbfuller.com
- **Abbreviations and acronyms:**
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
- *** Data compared to the previous version altered.**



Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 19.04.2018

Version number 7

Revision: 19.04.2018

SECTION 1: Identification of the substance/mixture and of the company/undertaking

- **1.1 Product identifier**
- **Trade name:** thermonex® hardener 006B L.Blue
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
- **Product category** PC1 Adhesives, sealants
- **Application of the substance / the mixture** Hardening agent/ Curing agent
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
H.B. Fuller, Isar-Rakoll, S.A.
Estrada Nacional 13
PT-4486-851 Mindelo - Vila do Conde
+351 229 288 200
EU-MSDS@hbfuller.com
- **Informing department:** Regulatory Department
- **1.4 Emergency telephone number:**
NCEC emergency service
+44 (0) 1235 239 670 (24 hours)

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**
Acute Tox. 4 H332 Harmful if inhaled.
Eye Irrit. 2 H319 Causes serious eye irritation.
Skin Sens. 1 H317 May cause an allergic skin reaction.
STOT SE 3 H335 May cause respiratory irritation.
Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms**



GHS07

- **Signal word** Warning
- **Hazard-determining components of labelling:**
hydrophilic aliphatic polyisocyanate
hexamethylene diisocyanate
- **Hazard statements**
H332 Harmful if inhaled.
H319 Causes serious eye irritation.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.
H412 Harmful to aquatic life with long lasting effects.
- **Precautionary statements**
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P280 Wear protective gloves / eye protection / face protection.

(Contd. on page 2)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 19.04.2018

Version number 7

Revision: 19.04.2018

Trade name: thermonex® hardener 006B L.Blue

(Contd. of page 1)

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

- **3.2 Chemical characterisation: Mixtures**
- **Description:** Adhesive.

· **Dangerous components:**

CAS: 125252-47-3	hydrophilic aliphatic polyisocyanate Acute Tox. 4, H332; Skin Sens. 1, H317; STOT SE 3, H335; Aquatic Chronic 3, H412	50-100%
CAS: 108-32-7 EINECS: 203-572-1 Reg.nr.: 01-2119537232-48-0000	propylene carbonate Eye Irrit. 2, H319	10-25%
CAS: 822-06-0 EINECS: 212-485-8 Reg.nr.: 01-2119457571-37-0000	hexamethylene diisocyanate Acute Tox. 3, H311; Acute Tox. 3, H331; Resp. Sens. 1, H334; Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335	<0.5%

- **Additional information** For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **General information**
Instantly remove any clothing soiled by the product.
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
Take affected persons into the open air.
- **After inhalation** Supply fresh air and call for doctor for safety reasons.
- **After skin contact**
Instantly wash with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.
- **After eye contact** Rinse opened eye for several minutes under running water. Then consult doctor.
- **After swallowing** Do not induce vomiting; instantly call for medical help.
- **4.2 Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

GB

(Contd. on page 3)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 19.04.2018

Version number 7

Revision: 19.04.2018

Trade name: **thermonex® hardener 006B L.Blue**

(Contd. of page 2)

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents**
Use fire fighting measures that suit the environment.
Water haze
Foam
Fire-extinguishing powder
Carbon dioxide
- **5.2 Special hazards arising from the substance or mixture**
Can be released in case of fire
Nitrous vitriol gases
Carbon monoxide and carbon dioxide
Isocyanate fumes and traces of hydrogen cyanide.
Under certain fire conditions, traces of other toxic gases cannot be excluded.
- **5.3 Advice for firefighters**
- **Protective equipment:** Do not inhale explosion gases or combustion gases.
- **Additional information**
Collect contaminated fire fighting water separately. It must not enter drains.
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Ensure adequate ventilation
Wear protective clothing.
- **6.2 Environmental precautions:**
Do not allow to enter drainage system, surface or ground water.
Inform respective authorities in case product reaches water or sewage system.
- **6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Ensure adequate ventilation.
Send for recovery or disposal in suitable containers.
- **6.4 Reference to other sections**
See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Keep out of the reach of children.
- **Information about protection against explosions and fires:** No special measures required.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and containers:** Prevent any penetration into the ground.
- **Information about storage in one common storage facility:** Store away from foodstuffs.
- **Further information about storage conditions:**
Protect from heat and direct sunlight.
Store in cool, dry conditions in original sealed container

(Contd. on page 4)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 19.04.2018

Version number 7

Revision: 19.04.2018

Trade name: **thermonex® hardener 006B L.Blue**

(Contd. of page 3)

· **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· **Additional information about design of technical systems:** No further data; see item 7.

· 8.1 Control parameters

· **Components with limit values that require monitoring at the workplace:**

822-06-0 hexamethylene diisocyanate

WEL	Short-term value: 0.07 mg/m ³ Long-term value: 0.02 mg/m ³ Sen; as -NCO
-----	---

· **Additional information:** The lists that were valid during the compilation were used as basis.

· 8.2 Exposure controls

· Personal protective equipment

· General protective and hygienic measures

The usual precautionary measures should be adhered to general rules for handling chemicals.

Keep away from foodstuffs, beverages and food.

Take off immediately all contaminated clothing

Wash hands during breaks and at the end of the work.

Do not inhale gases / fumes / aerosols.

· **Breathing equipment:** Use breathing protection in case of insufficient ventilation.· **Recommended filter device for short term use:** Combination filter A-P2· **Protection of hands:**

Protective gloves.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· Material of gloves

Recommended thickness of the material: ≥ 0.7 mm

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Butyl rubber, BR

· Penetration time of glove material

The information is based on literature data and information of glove manufacturers.

Value for the permeation: Level ≤ 6

· Eye protection:



Tightly sealed safety glasses.

· **Body protection:** Protective work clothing.

GB

(Contd. on page 5)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 19.04.2018

Version number 7

Revision: 19.04.2018

Trade name: **thermonex® hardener 006B L.Blue**

(Contd. of page 4)

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General Information

· Appearance:

Form:	Fluid
Colour:	Light blue
Odour:	Fruit-like
Odour threshold:	Not determined.

· pH-value: Not determined.

· Change in condition

Melting point/freezing point:	Not determined
Initial boiling point and boiling range:	Not determined

· Flash point: 135 °C (DIN 53213)

· Inflammability (solid, gaseous) Not applicable.

· Decomposition temperature: Not determined.

· Self-inflammability: Product is not selfigniting.

· Explosive properties: Product is not explosive.

· Critical values for explosion:

Lower:	4.7 Vol % (EN 1839)
Upper:	21.0 Vol % (EN 1839)

· Vapour pressure at 20 °C: 42 hPa (DIN 51640)

· Density at 20 °C ca. 1.17 g/cm³ (DIN 51757)

· Relative density Not determined.

· Vapour density Not determined.

· Evaporation rate Not determined.

· Solubility in / Miscibility with

Water: Not miscible or difficult to mix

· Partition coefficient: n-octanol/water: Not determined.

· Viscosity:

dynamic: Not determined.

kinematic: Not determined.

· Solvent content:

Solids content: 83.0 % (ISO 3251)

· 9.2 Other information No further relevant information available.

SECTION 10: Stability and reactivity

· 10.1 Reactivity No further relevant information available.

· 10.2 Chemical stability

· Thermal decomposition / conditions to be avoided:

To avoid thermal decomposition do not overheat.

· 10.3 Possibility of hazardous reactions Reacts with alcohols, amines, aqueous acids and alkalis

· 10.4 Conditions to avoid No further relevant information available.

· 10.5 Incompatible materials: No further relevant information available.

(Contd. on page 6)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 19.04.2018

Version number 7

Revision: 19.04.2018

Trade name: **thermonex® hardener 006B L.Blue**

(Contd. of page 5)

· **10.6 Hazardous decomposition products:** No dangerous decomposition products known

SECTION 11: Toxicological information

· 11.1 Information on toxicological effects

· Acute toxicity

Harmful if inhaled.

· LD/LC50 values that are relevant for classification:

125252-47-3 hydrophilic aliphatic polyisocyanate

Oral	LD50	>2,000 mg/kg (rat)
------	------	--------------------

108-32-7 propylene carbonate

Oral	LD50	5,000 mg/kg (rat)
------	------	-------------------

822-06-0 hexamethylene diisocyanate

Oral	LD50	738 mg/kg (rat)
------	------	-----------------

Dermal	LD50	593 mg/kg (rabbit)
--------	------	--------------------

· Primary irritant effect:

· Skin corrosion/irritation

 Based on available data, the classification criteria are not met.

· Serious eye damage/irritation

Causes serious eye irritation.

· Respiratory or skin sensitisation

May cause an allergic skin reaction.

· CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

· Germ cell mutagenicity

 Based on available data, the classification criteria are not met.

· Carcinogenicity

 Based on available data, the classification criteria are not met.

· Reproductive toxicity

 Based on available data, the classification criteria are not met.

· STOT-single exposure

May cause respiratory irritation.

· STOT-repeated exposure

 Based on available data, the classification criteria are not met.

· Aspiration hazard

 Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

· 12.1 Toxicity

· Aquatic toxicity:

125252-47-3 hydrophilic aliphatic polyisocyanate

LC50/96h	17.8 mg/l (Brachydanio rerio)
----------	-------------------------------

EC50/48h	58 mg/l (Daphnia magna)
----------	-------------------------

108-32-7 propylene carbonate

LC50/48h	1,000 mg/l (-)
----------	----------------

IC50/72h	>900 mg/l (Desmodesmus subspicatus)
----------	-------------------------------------

LC50/24h	5 mg/l (-)
----------	------------

EC50/48h	>1,000 mg/l (Daphnia magna)
----------	-----------------------------

· 12.2 Persistence and degradability

125252-47-3 hydrophilic aliphatic polyisocyanate

Bio.Abbaubark./28 d	2 % (-)
---------------------	---------

108-32-7 propylene carbonate

Bio.Abbaubark./28 d	94 % (-)
---------------------	----------

(Contd. on page 7)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 19.04.2018

Version number 7

Revision: 19.04.2018

Trade name: thermonex® hardener 006B L.Blue

(Contd. of page 6)

- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Harmful to fish
- **Additional ecological information:**
- **General notes:**
 Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water.
 Do not allow product to reach ground water, water bodies or sewage system.
 Harmful to aquatic organisms
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
 Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
 Must be specially treated under adherence to official regulations.

- **European waste catalogue**

08 00 00	WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS
08 04 00	wastes from MFSU of adhesives and sealants (including waterproofing products)
08 04 09*	waste adhesives and sealants containing organic solvents or other hazardous substances

- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

SECTION 14: Transport information

- | | |
|---|-----------------|
| <ul style="list-style-type: none"> · 14.1 UN-Number · ADR, ADN, IMDG, IATA | Void |
| <ul style="list-style-type: none"> · 14.2 UN proper shipping name · ADR, ADN, IMDG, IATA | Void |
| <ul style="list-style-type: none"> · 14.3 Transport hazard class(es) · ADR, ADN, IMDG, IATA · Class | Void |
| <ul style="list-style-type: none"> · 14.4 Packing group · ADR, IMDG, IATA | Void |
| <ul style="list-style-type: none"> · 14.5 Environmental hazards: · Marine pollutant: | No |
| <ul style="list-style-type: none"> · 14.6 Special precautions for user | Not applicable. |

(Contd. on page 8)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 19.04.2018

Version number 7

Revision: 19.04.2018

Trade name: thermonex® hardener 006B L.Blue

(Contd. of page 7)

- | | |
|--|---|
| · 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code | Not applicable. |
| · Transport/Additional information: | Not dangerous according to the above specifications. |
| · ADR | |
| · Remarks: | No dangerous good in accordance to the ADR-regulations. |
| · UN "Model Regulation": | Void |

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3
- **National regulations**
- **Technical instructions (air):**

Class	Share in %
I	0,1-1
NK	10-20
- **Water hazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.
- **VOC (EU) %** 0.00 %
- **Code MAL** 5-5
- **VOC (EU)** 0.0 g/l
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**
 - H302 Harmful if swallowed.
 - H311 Toxic in contact with skin.
 - H315 Causes skin irritation.
 - H317 May cause an allergic skin reaction.
 - H319 Causes serious eye irritation.
 - H331 Toxic if inhaled.
 - H332 Harmful if inhaled.
 - H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 - H335 May cause respiratory irritation.
 - H412 Harmful to aquatic life with long lasting effects.
- **Contact:** EU-MSDS@hbfuller.com
- **Abbreviations and acronyms:**
 - RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
 - ICAO: International Civil Aviation Organisation
 - ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 - IMDG: International Maritime Code for Dangerous Goods
 - IATA: International Air Transport Association

(Contd. on page 9)

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 19.04.2018

Version number 7

Revision: 19.04.2018

Trade name: thermonex® hardener 006B L.Blue

(Contd. of page 8)

GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Acute Tox. 3: Acute toxicity – Category 3
Acute Tox. 4: Acute toxicity – Category 4
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
Resp. Sens. 1: Respiratory sensitisation – Category 1
Skin Sens. 1: Skin sensitisation – Category 1
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

*** Data compared to the previous version altered.**

GB



Date of compilation: 27/01/2023

Revised: 19/05/2026

Version: 6 (Replaced 5)

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

- 1.1 Product identifier:** S 1922 (TF) Clear
Other means of identification:
UFI: 7250-R0D8-000M-E92P
- 1.2 Relevant identified uses of the substance or mixture and uses advised against:**
Relevant uses (Professional users): Adhesive
Relevant uses (Industrial user): Adhesive
For Professional users/Industrial user only.
Uses advised against: All uses not specified in this section or in section 7.3
- 1.3 Details of the supplier of the safety data sheet:**
ALPHA ADHESIVES & SEALANTS LTD
Llewellyn Close, Sandy Lane Industrial Estate
DY13 9RH Stourport-on-Severn - Worcestershire - United Kingdom
Phone: +44 (0)1299 828626 | 24 Hour Emergency Contact: +44 (0)7770 654279
sales@alpha-adhesives.co.uk
- 1.4 Emergency telephone number:** +44 (0)1299 828626 (Available 08:00-16:45 GMT) - +44 (0)7770 654279 (24 hours)

SECTION 2: HAZARDS IDENTIFICATION

- 2.1 Classification of the substance or mixture:**
GB CLP Regulation (UK S.I. 2019/720 and UK S.I. 2020/1567):
Classification of this product has been carried out in accordance with GB CLP Regulation (UK S.I. 2019/720 and UK S.I. 2020/1567).
Aquatic Acute 1: Hazardous to the aquatic environment, acute hazard, Category 1, H400
Aquatic Chronic 1: Hazardous to the aquatic environment, long-term hazard, Category 1, H410
Eye Irrit. 2: Eye irritation, Category 2, H319
Flam. Liq. 2: Flammable liquids, Category 2, H225
Skin Irrit. 2: Skin irritation, Category 2, H315
STOT SE 3: Specific toxicity causing drowsiness and dizziness, single exposure, Category 3, H336

2.2 Label elements:

GB CLP Regulation (UK S.I. 2019/720 and UK S.I. 2020/1567):

Danger



Hazard statements:

Aquatic Chronic 1: H410 - Very toxic to aquatic life with long lasting effects.

Eye Irrit. 2: H319 - Causes serious eye irritation.

Flam. Liq. 2: H225 - Highly flammable liquid and vapour.

Skin Irrit. 2: H315 - Causes skin irritation.

STOT SE 3: H336 - May cause drowsiness or dizziness.

Precautionary statements:

P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P280: Wear protective gloves/protective clothing/respiratory protection/eye protection/protective footwear.

P302+P352: IF ON SKIN: Wash with plenty of soap and water.

P303+P361+P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P370+P378: In case of fire: Use Foam extinguisher (AB), Dry Chemical Powder (ABC) Fire Extinguisher, Carbon dioxide extinguisher (BC) to extinguish.

P501: Dispose of the contents and/or its container in line with regulations on dangerous waste or packaging and waste packaging respectively.

Substances that contribute to the classification

- CONTINUED ON NEXT PAGE -



Date of compilation: 27/01/2023

Revised: 19/05/2026

Version: 6 (Replaced 5)

SECTION 2: HAZARDS IDENTIFICATION (continued)

cyclohexane; acetone; Hydrocarbons, C7-C9,n-alkanes, iso-alkanes, cyclics; Butanone; Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics

2.3 Other hazards:

Product does not meet PBT/vPvB criteria

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substance:

Not relevant

3.2 Mixture:

Chemical description: Mixture composed of polymers and resins in solvent

Components:

In accordance with Annex II of The REACH etc. (Amendment etc.) (EU Exit) Regulations 2020, the product contains:

Identification	Chemical name/Classification	Concentration
CAS: 110-82-7 EC: 203-806-2 REACH: 01-2119463273-41-XXXX	cyclohexane Aquatic Acute 1: H400; Aquatic Chronic 1: H410; Asp. Tox. 1: H304; Flam. Liq. 2: H225; Skin Irrit. 2: H315; STOT SE 3: H336 - Danger	25 - <60%
CAS: 67-64-1 EC: 200-662-2 REACH: 01-2119471330-49-XXXX	acetone Eye Irrit. 2: H319; Flam. Liq. 2: H225; STOT SE 3: H336; EUH066 - Danger	10 - <25%
CAS: Not relevant EC: 920-750-0 REACH: 01-2119473851-33-XXXX	Hydrocarbons, C7-C9,n-alkanes, iso-alkanes, cyclics Aquatic Chronic 2: H411; Asp. Tox. 1: H304; Flam. Liq. 2: H225; STOT SE 3: H336; EUH066 - Danger	5 - <10%
CAS: 78-93-3 EC: 201-159-0 REACH: 01-2119457290-43-XXXX	Butanone Eye Irrit. 2: H319; Flam. Liq. 2: H225; STOT SE 3: H336; EUH066 - Danger	5 - <10%
CAS: 64742-49-0 EC: 927-510-4 REACH: 01-2119475515-33-XXXX	Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics Aquatic Chronic 2: H411; Asp. Tox. 1: H304; Flam. Liq. 2: H225; Skin Irrit. 2: H315; STOT SE 3: H336 - Danger	5 - <10%
CAS: 64-17-5 EC: 200-578-6 REACH: 01-2119457610-43-XXXX	ethanol Eye Irrit. 2: H319; Flam. Liq. 2: H225 - Danger	1 - <5%
CAS: 9003-35-4 EC: 500-005-2 REACH: 01-2120735197-51-XXXX	Formaldehyde, oligomeric reaction products with phenol Eye Irrit. 2: H319; Skin Irrit. 2: H315; STOT SE 3: H335 - Warning	1 - <5%
CAS: 68610-51-5 EC: 271-867-2 REACH: 01-2119496062-39-XXXX	Phenol, 4-methyl-, reaction products with dicyclopentadiene and isobutylene Aquatic Chronic 4: H413; Repr. 2: H361 - Warning	0.1 - <1%

To obtain more information on the hazards of the substances consult sections 11, 12 and 16.

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures:

The symptoms resulting from intoxication can appear after exposure, therefore, in case of doubt, seek medical attention for direct exposure to the chemical product or persistent discomfort, showing the SDS of this product.

By inhalation:

Remove the person affected from the area of exposure, provide with fresh air and keep at rest. In serious cases such as cardiorespiratory failure, artificial resuscitation techniques will be necessary (mouth to mouth resuscitation, cardiac massage, oxygen supply,etc.) requiring immediate medical assistance.

By skin contact:

- CONTINUED ON NEXT PAGE -



Date of compilation: 27/01/2023

Revised: 19/05/2026

Version: 6 (Replaced 5)

SECTION 4: FIRST AID MEASURES (continued)

Remove contaminated clothing and footwear, rinse skin or shower the person affected if appropriate with plenty of cold water and neutral soap. In serious cases see a doctor. If the product causes burns or freezing, clothing should not be removed as this could worsen the injury caused if it is stuck to the skin. If blisters form on the skin, these should never be burst as this will increase the risk of infection.

By eye contact:

Rinse eyes thoroughly with water for at least 15 minutes. If the injured person uses contact lenses, these should be removed unless they are stuck to the eyes, in which case removal could cause further damage. In all cases, after cleaning, a doctor should be consulted as quickly as possible with the SDS for the product.

By ingestion/aspiration:

Do not induce vomiting, but if it does happen keep the head down to avoid aspiration. Keep the person affected at rest. Rinse out the mouth and throat, as they may have been affected during ingestion.

4.2 Most important symptoms and effects, both acute and delayed:

Acute and delayed effects are indicated in sections 2 and 11.

4.3 Indication of any immediate medical attention and special treatment needed:

Not relevant

SECTION 5: FIREFIGHTING MEASURES**5.1 Extinguishing media:****Suitable extinguishing media:**

Foam extinguisher (AB), Dry Chemical Powder (ABC) Fire Extinguisher, Carbon dioxide extinguisher (BC)

Unsuitable extinguishing media:

Water jet

5.2 Special hazards arising from the substance or mixture:

As a result of combustion or thermal decomposition reactive sub-products are created that can become highly toxic and, consequently, can present a serious health risk.

5.3 Advice for firefighters:

Depending on the magnitude of the fire it may be necessary to use full protective clothing and Self Contained Breathing Apparatus. Minimum emergency facilities and equipment should be available (fire blankets, portable first aid kit,...)

Additional provisions:

Act in accordance with the Internal Emergency Plan and the Information Sheets on actions to take after an accident or other emergencies. Eliminate all sources of ignition. In case of fire, cool the storage containers and tanks for products susceptible to combustion, explosion or BLEVE as a result of high temperatures. Avoid spillage of the products used to extinguish the fire into an aqueous medium.

SECTION 6: ACCIDENTAL RELEASE MEASURES**6.1 Personal precautions, protective equipment and emergency procedures:****For non-emergency personnel:**

Isolate leaks provided that there is no additional risk for the people performing this task. Evacuate the area and keep out those without protection. Personal protection equipment must be used against potential contact with the spilt product (See section 8). Above all prevent the formation of any vapour-air flammable mixtures, through either ventilation or the use of an inert medium. Remove any source of ignition. Eliminate electrostatic charges by interconnecting all the conductive surfaces on which static electricity could form, and also ensuring that all surfaces are connected to the ground.

For emergency responders:

Wear protective equipment. Keep unprotected persons away. See section 8.

6.2 Environmental precautions:

Avoid at all cost any type of spillage into an aqueous medium. Contain the product absorbed appropriately in hermetically sealed containers. Notify the relevant authority in case of exposure to the general public or the environment.

6.3 Methods and material for containment and cleaning up:

It is recommended:

- CONTINUED ON NEXT PAGE -



Date of compilation: 27/01/2023

Revised: 19/05/2026

Version: 6 (Replaced 5)

SECTION 6: ACCIDENTAL RELEASE MEASURES (continued)

Prevent the entrance of product in drains, sewers or watercourses. Absorb the spill using sand or inert absorbent and move it to a safe place. Do not absorb in sawdust or other combustible absorbents. Collect the product in appropriate containers and manage it according to current legislation.

Spillages in water or sea:

Small spillages:

Contain spillage using barriers or similar equipment. Use suitable absorbents for collection and treat the waste in accordance with current regulations.

Large spillages:

If possible, contain spillage in open water using barriers or similar equipment. If this is not possible, try to control its spread and collect the product with suitable mechanical means. Always consult experts before using dispersants and make sure you have the necessary approvals if they are to be used. Treat the waste according to current regulations.

6.4 Reference to other sections:

See sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling:

A.- General precautions for safe use

Comply with the current legislation concerning the prevention of industrial risks. Keep containers hermetically sealed. Control spills and residues, destroying them with safe methods (section 6). Avoid leakages from the container. Maintain order and cleanliness where dangerous products are used.

B.- Technical recommendations for the prevention of fires and explosions

Transfer in well ventilated areas, preferably through localized extraction. Fully control sources of ignition (mobile phones, sparks,...) and ventilate during cleaning operations. Avoid the existence of dangerous atmospheres inside containers, applying inertization systems where possible. Transfer at a slow speed to avoid the creation of electrostatic charges. Against the possibility of electrostatic charges: ensure a perfect equipotential connection, always use groundings, do not wear work clothes made of acrylic fibres, preferably wearing cotton clothing and conductive footwear. Comply with the essential security requirements for equipment and systems defined in The Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016 and with the minimum requirements for protecting the security and health of workers under the selection criteria of The Dangerous Substances and Explosive Atmospheres Regulations 2002, 2002 No. 2776. Consult section 10 for conditions and materials that should be avoided.

C.- Technical recommendations on general occupational hygiene

Do not eat or drink during the process, washing hands afterwards with suitable cleaning products.

D.- Technical recommendations to prevent environmental risks

Due to the danger of this product for the environment it is recommended to use it within an area containing contamination control barriers in case of spillage, as well as having absorbent material in close proximity.

7.2 Conditions for safe storage, including any incompatibilities:

A.- Specific storage requirements

Store in a cool, dry, well-ventilated location

B.- General conditions for storage

Avoid sources of heat, radiation, static electricity and contact with food. For additional information see subsection 10.5

7.3 Specific end use(s):

Except for the instructions already specified it is not necessary to provide any special recommendation regarding the uses of this product.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters:

Substances whose occupational exposure limits have to be assessed in the workplace:

EH40/2005 Workplace exposure limits, fourth edition, published 2020:

Identification	Occupational exposure limits		
	WEL (8h)	100 ppm	350 mg/m ³
cyclohexane CAS: 110-82-7	WEL (15 min)	300 ppm	1050 mg/m ³

- CONTINUED ON NEXT PAGE -



Date of compilation: 27/01/2023

Revised: 19/05/2026

Version: 6 (Replaced 5)

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

EH40/2005 Workplace exposure limits, fourth edition, published 2020:

Identification	Occupational exposure limits		
acetone CAS: 67-64-1	WEL (8h)	500 ppm	1210 mg/m ³
	WEL (15 min)	1500 ppm	3620 mg/m ³
Butanone CAS: 78-93-3	WEL (8h)	200 ppm	600 mg/m ³
	WEL (15 min)	300 ppm	899 mg/m ³
Xylene ⁽¹⁾ CAS: 1330-20-7	WEL (8h)	50 ppm	220 mg/m ³
	WEL (15 min)	100 ppm	441 mg/m ³
Ethylbenzene ⁽¹⁾ CAS: 100-41-4	WEL (8h)	100 ppm	441 mg/m ³
	WEL (15 min)	125 ppm	552 mg/m ³
Formaldehyde ⁽²⁾ CAS: 50-00-0	WEL (8h)	2 ppm	2.5 mg/m ³
	WEL (15 min)	2 ppm	2.5 mg/m ³
Magnesium oxide CAS: 1309-48-4	WEL (8h)		4 mg/m ³
	WEL (15 min)		
methanol ⁽¹⁾ CAS: 67-56-1	WEL (8h)	200 ppm	266 mg/m ³
	WEL (15 min)	250 ppm	333 mg/m ³
ethanol CAS: 64-17-5	WEL (8h)	1000 ppm	1920 mg/m ³
	WEL (15 min)		
Rosin CAS: 8050-09-7	WEL (8h)		0.05 mg/m ³
	WEL (15 min)		0.15 mg/m ³
Talc CAS: 14807-96-6	WEL (8h)		1 mg/m ³
	WEL (15 min)		

⁽¹⁾ Skin

⁽²⁾ Dermal sensitisation

Biological limit values:

BIOLOGICAL MONITORING GUIDANCE VALUES (BMGVs) - EH40/2005

Identification	NULL	NULL	NULL
Butanone CAS: 78-93-3	5 mg/L	Butan-2-one in urine	Post shift
Xylene CAS: 1330-20-7	1030 mg/g (Creatinine)	Methyl hippuric acid in urine	Post shift

DNEL (Workers):

Identification		Short exposure		Long exposure	
		Systemic	Local	Systemic	Local
cyclohexane CAS: 110-82-7 EC: 203-806-2	Oral	Not relevant	Not relevant	Not relevant	Not relevant
	Dermal	Not relevant	Not relevant	2016 mg/kg	Not relevant
	Inhalation	1400 mg/m ³	1400 mg/m ³	700 mg/m ³	700 mg/m ³
acetone CAS: 67-64-1 EC: 200-662-2	Oral	Not relevant	Not relevant	Not relevant	Not relevant
	Dermal	Not relevant	Not relevant	186 mg/kg	Not relevant
	Inhalation	Not relevant	2420 mg/m ³	1210 mg/m ³	Not relevant
Hydrocarbons, C7-C9,n-alkanes, iso-alkanes, cyclics CAS: Not relevant EC: 920-750-0	Oral	Not relevant	Not relevant	Not relevant	Not relevant
	Dermal	Not relevant	Not relevant	773 mg/kg	Not relevant
	Inhalation	Not relevant	Not relevant	2035 mg/m ³	Not relevant
Butanone CAS: 78-93-3 EC: 201-159-0	Oral	Not relevant	Not relevant	Not relevant	Not relevant
	Dermal	Not relevant	Not relevant	1161 mg/kg	Not relevant
	Inhalation	Not relevant	Not relevant	600 mg/m ³	Not relevant
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics CAS: 64742-49-0 EC: 927-510-4	Oral	Not relevant	Not relevant	Not relevant	Not relevant
	Dermal	Not relevant	Not relevant	300 mg/kg	Not relevant
	Inhalation	Not relevant	Not relevant	2085 mg/m ³	Not relevant
ethanol CAS: 64-17-5 EC: 200-578-6	Oral	Not relevant	Not relevant	Not relevant	Not relevant
	Dermal	Not relevant	Not relevant	343 mg/kg	Not relevant
	Inhalation	Not relevant	Not relevant	950 mg/m ³	Not relevant
Formaldehyde, oligomeric reaction products with phenol CAS: 9003-35-4 EC: 500-005-2	Oral	Not relevant	Not relevant	Not relevant	Not relevant
	Dermal	Not relevant	Not relevant	28 mg/kg	Not relevant
	Inhalation	Not relevant	Not relevant	98.7 mg/m ³	Not relevant

- CONTINUED ON NEXT PAGE -



Date of compilation: 27/01/2023

Revised: 19/05/2026

Version: 6 (Replaced 5)

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

Identification		Short exposure		Long exposure	
		Systemic	Local	Systemic	Local
Phenol, 4-methyl-, reaction products with dicyclopentadiene and isobutylene CAS: 68610-51-5 EC: 271-867-2	Oral	Not relevant	Not relevant	Not relevant	Not relevant
	Dermal	Not relevant	Not relevant	0.42 mg/kg	Not relevant
	Inhalation	Not relevant	Not relevant	0.29 mg/m ³	Not relevant

DNEL (General population):

Identification		Short exposure		Long exposure	
		Systemic	Local	Systemic	Local
cyclohexane CAS: 110-82-7 EC: 203-806-2	Oral	Not relevant	Not relevant	59.4 mg/kg	Not relevant
	Dermal	Not relevant	Not relevant	1186 mg/kg	Not relevant
	Inhalation	412 mg/m ³	412 mg/m ³	206 mg/m ³	206 mg/m ³
acetone CAS: 67-64-1 EC: 200-662-2	Oral	Not relevant	Not relevant	62 mg/kg	Not relevant
	Dermal	Not relevant	Not relevant	62 mg/kg	Not relevant
	Inhalation	Not relevant	Not relevant	200 mg/m ³	Not relevant
Hydrocarbons, C7-C9,n-alkanes, iso-alkanes, cyclics CAS: Not relevant EC: 920-750-0	Oral	Not relevant	Not relevant	699 mg/kg	Not relevant
	Dermal	Not relevant	Not relevant	699 mg/kg	Not relevant
	Inhalation	Not relevant	Not relevant	608 mg/m ³	Not relevant
Butanone CAS: 78-93-3 EC: 201-159-0	Oral	Not relevant	Not relevant	31 mg/kg	Not relevant
	Dermal	Not relevant	Not relevant	412 mg/kg	Not relevant
	Inhalation	Not relevant	Not relevant	106 mg/m ³	Not relevant
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics CAS: 64742-49-0 EC: 927-510-4	Oral	Not relevant	Not relevant	149 mg/kg	Not relevant
	Dermal	Not relevant	Not relevant	149 mg/kg	Not relevant
	Inhalation	Not relevant	Not relevant	447 mg/m ³	Not relevant
ethanol CAS: 64-17-5 EC: 200-578-6	Oral	Not relevant	Not relevant	87 mg/kg	Not relevant
	Dermal	Not relevant	Not relevant	206 mg/kg	Not relevant
	Inhalation	Not relevant	Not relevant	114 mg/m ³	Not relevant
Formaldehyde, oligomeric reaction products with phenol CAS: 9003-35-4 EC: 500-005-2	Oral	Not relevant	Not relevant	10 mg/kg	Not relevant
	Dermal	Not relevant	Not relevant	10 mg/kg	Not relevant
	Inhalation	Not relevant	Not relevant	14.8 mg/m ³	Not relevant
Phenol, 4-methyl-, reaction products with dicyclopentadiene and isobutylene CAS: 68610-51-5 EC: 271-867-2	Oral	Not relevant	Not relevant	0.04 mg/kg	Not relevant
	Dermal	Not relevant	Not relevant	0.21 mg/kg	Not relevant
	Inhalation	Not relevant	Not relevant	0.07 mg/m ³	Not relevant

PNEC:

Identification				
cyclohexane CAS: 110-82-7 EC: 203-806-2	STP	3.24 mg/L	Fresh water	0.207 mg/L
	Soil	3.38 mg/kg	Marine water	0.207 mg/L
	Intermittent	0.207 mg/L	Sediment (Fresh water)	16.68 mg/kg
	Oral	Not relevant	Sediment (Marine water)	16.68 mg/kg
acetone CAS: 67-64-1 EC: 200-662-2	STP	100 mg/L	Fresh water	10.6 mg/L
	Soil	29.5 mg/kg	Marine water	1.06 mg/L
	Intermittent	21 mg/L	Sediment (Fresh water)	30.4 mg/kg
	Oral	Not relevant	Sediment (Marine water)	3.04 mg/kg
Butanone CAS: 78-93-3 EC: 201-159-0	STP	709 mg/L	Fresh water	55.8 mg/L
	Soil	22.5 mg/kg	Marine water	55.8 mg/L
	Intermittent	55.8 mg/L	Sediment (Fresh water)	284.74 mg/kg
	Oral	1 g/kg	Sediment (Marine water)	284.7 mg/kg
ethanol CAS: 64-17-5 EC: 200-578-6	STP	580 mg/L	Fresh water	0.96 mg/L
	Soil	0.63 mg/kg	Marine water	0.79 mg/L
	Intermittent	2.75 mg/L	Sediment (Fresh water)	3.6 mg/kg
	Oral	0.38 g/kg	Sediment (Marine water)	2.9 mg/kg

- CONTINUED ON NEXT PAGE -



Date of compilation: 27/01/2023

Revised: 19/05/2026

Version: 6 (Replaced 5)

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

Identification				
Formaldehyde, oligomeric reaction products with phenol CAS: 9003-35-4 EC: 500-005-2	STP	Not relevant	Fresh water	0.172 mg/L
	Soil	0.0284 mg/kg	Marine water	0.0172 mg/L
	Intermittent	1.72 mg/L	Sediment (Fresh water)	0.647 mg/kg
	Oral	Not relevant	Sediment (Marine water)	0.0647 mg/kg
Phenol, 4-methyl-, reaction products with dicyclopentadiene and isobutylene CAS: 68610-51-5 EC: 271-867-2	STP	100 mg/L	Fresh water	0.01 mg/L
	Soil	85.16 mg/kg	Marine water	0.002 mg/L
	Intermittent	0.002 mg/L	Sediment (Fresh water)	426.26 mg/kg
	Oral	0.0017 g/kg	Sediment (Marine water)	85.25 mg/kg

8.2 Exposure controls:

A.- Individual protection measures, such as personal protective equipment

As a preventative measure it is recommended to use basic Personal Protective Equipment, with the corresponding <<UKCA marking>> or <<CE marking>>. For more information on Personal Protective Equipment (storage, use, cleaning, maintenance, class of protection,...) consult the information leaflet provided by the manufacturer. For more information see subsection 7.1. All information contained herein is a recommendation which needs some specification from the labour risk prevention services as it is not known whether the company has additional measures at its disposal.

B.- Respiratory protection

Pictogram	PPE	Remarks
 Mandatory respiratory tract protection	Filter mask for gases, vapours and particles (Filter type: AX)	Replace when an increase in resistance to breathing is observed and/or a smell or taste of the contaminant is detected.

C.- Specific protection for the hands

Pictogram	PPE	Remarks
 Mandatory hand protection	Chemical protective gloves	Replace the gloves at any sign of deterioration.

As the product is a mixture of several substances, the resistance of the glove material can not be calculated in advance with total reliability and has therefore to be checked prior to the application.

D.- Eye and face protection

Pictogram	PPE	Remarks
 Mandatory face protection	Panoramic glasses against splash/projections.	Clean daily and disinfect periodically according to the manufacturer's instructions. Use if there is a risk of splashing.

E.- Body protection

Pictogram	PPE	Remarks
 Mandatory complete body protection	Disposable clothing for protection against chemical risks, with antistatic and fireproof properties	For professional use only. Clean periodically according to the manufacturer's instructions.
 Mandatory foot protection	Safety footwear for protection against chemical risk, with antistatic and heat resistant properties	Replace boots at any sign of deterioration.

F.- Additional emergency measures

It is advised to implement additional emergency equipments in workplaces that are particularly exposed to the product or in situations where risk assessments highlight the necessity of such equipments.

- CONTINUED ON NEXT PAGE -



Date of compilation: 27/01/2023

Revised: 19/05/2026

Version: 6 (Replaced 5)

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

Emergency measure	Standards	Emergency measure	Standards
 Emergency shower	ANSI Z358-1 ISO 3864-1:2011, ISO 3864-4:2011	 Eyewash stations	DIN 12 899 ISO 3864-1:2011, ISO 3864-4:2011

Environmental exposure controls:

To comply with environmental protection regulations, it is recommended to prevent any spillage of the product and its container. For more detailed information, please refer to subsection 7.1.D.

The Volatile Organic Compounds in Paints, Varnishes and Vehicle Refinishing Products Regulations 2012:

V.O.C. (Supply):	81.68 % weight
V.O.C. density at 20 °C:	Not relevant

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

For complete information see the product datasheet.

Appearance:

Physical state at 20 °C:	Liquid
Appearance:	Transparent
Colour:	Amber
Odour:	Solvent
Odour threshold:	Not relevant *

Volatility:

Boiling point at atmospheric pressure:	56 °C
Vapour pressure at 20 °C:	13125 Pa
Vapour pressure at 50 °C:	45685.56 Pa (45.69 kPa)
Evaporation rate at 20 °C:	Not relevant *

Product description:

Density at 20 °C:	Not relevant *
Relative density at 20 °C:	0.818
Dynamic viscosity at 20 °C:	120 - 280 mPa·s
Kinematic viscosity at 20 °C:	Not relevant *
Kinematic viscosity at 40 °C:	>20.5 mm ² /s
Concentration:	Not relevant *
pH:	Not relevant *
Vapour density at 20 °C:	Not relevant *
Partition coefficient n-octanol/water 20 °C:	Not relevant *
Solubility in water at 20 °C:	Not relevant *
Solubility properties:	Not relevant *
Decomposition temperature:	Not relevant *
Melting point/freezing point:	Not relevant *

Flammability:

Flash Point:	-7 °C
Flammability (solid, gas):	Not relevant *
Autoignition temperature:	>200 °C
Lower flammability limit:	0.6 % Volume

*Not relevant due to the nature of the product, not providing information property of its hazards.

- CONTINUED ON NEXT PAGE -



Date of compilation: 27/01/2023

Revised: 19/05/2026

Version: 6 (Replaced 5)

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES (continued)

Upper flammability limit: 14.3 % Volume

Particle characteristics:

Median equivalent diameter: Not relevant *

9.2 Other information:

Information with regard to physical hazard classes:

Explosive properties: Not relevant *

Oxidising properties: Not relevant *

Corrosive to metals: Not relevant *

Heat of combustion: Not relevant *

Aerosols-total percentage (by mass) of flammable components: Not relevant *

Other safety characteristics:

Surface tension at 20 °C: Not relevant *

Refraction index: Not relevant *

*Not relevant due to the nature of the product, not providing information property of its hazards.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity:

No hazardous reactions are expected because the product is stable under recommended storage conditions. See section 7 from Safety Data Sheet.

10.2 Chemical stability:

Chemically stable under the indicated conditions of storage, handling and use.

10.3 Possibility of hazardous reactions:

Under the specified conditions, hazardous reactions that lead to excessive temperatures or pressure are not expected.

10.4 Conditions to avoid:

Applicable for handling and storage at room temperature:

Shock and friction	Contact with air	Increase in temperature	Sunlight	Humidity
Not applicable	Not applicable	Risk of combustion	Avoid direct impact	Not applicable

10.5 Incompatible materials:

Acids	Water	Oxidising materials	Combustible materials	Others
Avoid strong acids	Not applicable	Avoid direct impact	Not applicable	Avoid alkalis or strong bases

10.6 Hazardous decomposition products:

See subsection 10.3, 10.4 and 10.5 to find out the specific decomposition products. Depending on the decomposition conditions, complex mixtures of chemical substances can be released: carbon dioxide (CO₂), carbon monoxide and other organic compounds.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects:

The experimental information related to the toxicological properties of the product itself is not available

Dangerous health implications:

In case of exposure that is repetitive, prolonged or at concentrations higher than the recommended occupational exposure limits, adverse effects on health may result, depending on the means of exposure:

A- Ingestion (acute effect):

- Acute toxicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for consumption. For more information see section 3
- Corrosivity/Irritability: The consumption of a considerable dose can cause irritation in the throat, abdominal pain, nausea and vomiting.

- CONTINUED ON NEXT PAGE -



Date of compilation: 27/01/2023

Revised: 19/05/2026

Version: 6 (Replaced 5)

SECTION 11: TOXICOLOGICAL INFORMATION (continued)

B- Inhalation (acute effect):

- Acute toxicity : Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for inhalation. For more information see section 3.
- Corrosivity/Irritability: Based on available data, the classification criteria are not met. However, it contains substances classified as hazardous for inhalation. For more information see section 3.

C- Contact with the skin and the eyes (acute effect):

- Contact with the skin: Produces skin inflammation.
- Contact with the eyes: Produces eye damage after contact.

D- CMR effects (carcinogenicity, mutagenicity and toxicity to reproduction):

- Carcinogenicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for the effects mentioned. For more information see section 3.
IARC: Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics (3); Xylene (3); Ethylbenzene (2B); Formaldehyde (1); ethanol (1); Talc (3)
- Mutagenicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.
- Reproductive toxicity: Based on available data, the classification criteria are not met. However, it does contain substances classified as hazardous for this effect. For more information see section 3.

E- Sensitizing effects:

- Respiratory: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous with sensitising effects. For more information see section 3.
- Skin: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

F- Specific target organ toxicity (STOT) - single exposure:

Exposure in high concentration can interfere with the central nervous system causing headache, dizziness, vertigo, nausea, vomiting, confusion, and in serious cases, loss of consciousness.

G- Specific target organ toxicity (STOT)-repeated exposure:

- Specific target organ toxicity (STOT)-repeated exposure: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.
- Skin: Based on available data, the classification criteria are not met. However, it does contain substances which are classified as dangerous due to repetitive exposure. For more information see section 3.

H- Aspiration hazard:

Based on available data, the classification criteria are not met. However, it does contain substances classified as hazardous for this effect. For more information see section 3.

Other information:

Not relevant

Specific toxicology information on the substances:

Identification	Acute toxicity		Genus
cyclohexane CAS: 110-82-7 EC: 203-806-2	LD50 oral	5100 mg/kg	Rat
	LD50 dermal		
	LC50 inhalation vapour		
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics CAS: 64742-49-0 EC: 927-510-4	LD50 oral	>5840 mg/kg	Rat
	LD50 dermal	>2200 mg/kg	Rabbit
	LC50 inhalation vapour	>23.3 mg/L (4 h)	Rat
Hydrocarbons, C7-C9,n-alkanes, iso-alkanes, cyclics CAS: Not relevant EC: 920-750-0	LD50 oral	>5840 mg/kg	Rat
	LD50 dermal	>2000 mg/kg	Rabbit
	LC50 inhalation vapour	>23.3 mg/L (4 h)	Rat
acetone CAS: 67-64-1 EC: 200-662-2	LD50 oral	5800 mg/kg	Rat
	LD50 dermal	7426 mg/kg	Rabbit
	LC50 inhalation vapour	76 mg/L (4 h)	Rat
Butanone CAS: 78-93-3 EC: 201-159-0	LD50 oral	4000 mg/kg	Rat
	LD50 dermal	6400 mg/kg	Rabbit
	LC50 inhalation vapour	23.5 mg/L (4 h)	Rat

- CONTINUED ON NEXT PAGE -



Date of compilation: 27/01/2023

Revised: 19/05/2026

Version: 6 (Replaced 5)

SECTION 11: TOXICOLOGICAL INFORMATION (continued)

Identification	Acute toxicity		Genus
ethanol CAS: 64-17-5 EC: 200-578-6	LD50 oral	6200 mg/kg	Rat
	LD50 dermal	20000 mg/kg	Rabbit
	LC50 inhalation vapour	124.7 mg/L (4 h)	Rat
Phenol, 4-methyl-, reaction products with dicyclopentadiene and isobutylene CAS: 68610-51-5 EC: 271-867-2	LD50 oral	>5000 mg/kg	Rat
	LD50 dermal		
	LC50 inhalation dust		

SECTION 12: ECOLOGICAL INFORMATION

The experimental information related to the eco-toxicological properties of the product itself is not available

Very toxic to aquatic life with long lasting effects.

12.1 Toxicity:

Acute toxicity:

Identification	Concentration		Species	Genus
cyclohexane CAS: 110-82-7	LC50	>0.1 - 1 mg/L (96 h)		Fish
	EC50	>0.1 - 1 mg/L (48 h)		Crustacean
	EC50	>0.1 - 1 mg/L (72 h)		Algae
acetone CAS: 67-64-1	LC50	5540 mg/L (96 h)	Oncorhynchus mykiss	Fish
	EC50	8800 mg/L (48 h)	Daphnia pulex	Crustacean
	EC50	3400 mg/L (48 h)	Chlorella pyrenoidosa	Algae
Hydrocarbons, C7-C9,n-alkanes, iso-alkanes, cyclics CAS: Not relevant	LC50	>1 - 10 mg/L (96 h)		Fish
	EC50	>1 - 10 mg/L (48 h)		Crustacean
	EC50	>1 - 10 mg/L (72 h)		Algae
Butanone CAS: 78-93-3	LC50	3220 mg/L (96 h)	Pimephales promelas	Fish
	EC50	5091 mg/L (48 h)	Daphnia magna	Crustacean
	EC50	4300 mg/L (168 h)	Scenedesmus quadricauda	Algae
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics CAS: 64742-49-0	LC50	>1 - 10 mg/L (96 h)		Fish
	EC50	>1 - 10 mg/L (48 h)		Crustacean
	EC50	>1 - 10 mg/L (72 h)		Algae
ethanol CAS: 64-17-5	LC50	11000 mg/L (96 h)	Alburnus alburnus	Fish
	EC50	9268 mg/L (48 h)	Daphnia magna	Crustacean
	EC50	1450 mg/L (192 h)	Microcystis aeruginosa	Algae

Chronic toxicity:

Identification	Concentration		Species	Genus
acetone CAS: 67-64-1	NOEC	Not relevant		
	NOEC	2212 mg/L	Daphnia magna	Crustacean
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics CAS: 64742-49-0	NOEC	Not relevant		
	NOEC	0.17 mg/L	Daphnia magna	Crustacean
ethanol CAS: 64-17-5	NOEC	250 mg/L	Danio rerio	Fish
	NOEC	2 mg/L	Ceriodaphnia dubia	Crustacean

12.2 Persistence and degradability:

Substance-specific information:

Identification	Degradability		Biodegradability	
cyclohexane CAS: 110-82-7 EC: 203-806-2	BOD5	Not relevant	Concentration	100 mg/L
	COD	Not relevant	Period	28 days
	BOD5/COD	Not relevant	% Biodegradable	0 %
acetone CAS: 67-64-1 EC: 200-662-2	BOD5	Not relevant	Concentration	100 mg/L
	COD	Not relevant	Period	28 days
	BOD5/COD	Not relevant	% Biodegradable	96 %

- CONTINUED ON NEXT PAGE -



Date of compilation: 27/01/2023

Revised: 19/05/2026

Version: 6 (Replaced 5)

SECTION 12: ECOLOGICAL INFORMATION (continued)

Identification	Degradability		Biodegradability	
Hydrocarbons, C7-C9,n-alkanes, iso-alkanes, cyclics CAS: Not relevant EC: 920-750-0	BOD5	Not relevant	Concentration	Not relevant
	COD	Not relevant	Period	28 days
	BOD5/COD	Not relevant	% Biodegradable	98 %
Butanone CAS: 78-93-3 EC: 201-159-0	BOD5	2.03 g O2/g	Concentration	Not relevant
	COD	2.31 g O2/g	Period	20 days
	BOD5/COD	0.88	% Biodegradable	89 %
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics CAS: 64742-49-0 EC: 927-510-4	BOD5	Not relevant	Concentration	Not relevant
	COD	Not relevant	Period	14 days
	BOD5/COD	Not relevant	% Biodegradable	95 %
ethanol CAS: 64-17-5 EC: 200-578-6	BOD5	Not relevant	Concentration	100 mg/L
	COD	Not relevant	Period	14 days
	BOD5/COD	Not relevant	% Biodegradable	89 %
Formaldehyde, oligomeric reaction products with phenol CAS: 9003-35-4 EC: 500-005-2	BOD5	0.5 g O2/g	Concentration	Not relevant
	COD	Not relevant	Period	Not relevant
	BOD5/COD	Not relevant	% Biodegradable	Not relevant

12.3 Bioaccumulative potential:

Substance-specific information:

Identification	Bioaccumulation potential	
cyclohexane CAS: 110-82-7 EC: 203-806-2	BCF	66
	Pow Log	3.44
	Potential	Moderate
acetone CAS: 67-64-1 EC: 200-662-2	BCF	1
	Pow Log	-0.24
	Potential	Low
Butanone CAS: 78-93-3 EC: 201-159-0	BCF	3
	Pow Log	0.29
	Potential	Low
ethanol CAS: 64-17-5 EC: 200-578-6	BCF	3
	Pow Log	-0.31
	Potential	Low
Formaldehyde, oligomeric reaction products with phenol CAS: 9003-35-4 EC: 500-005-2	BCF	8142
	Pow Log	3.56
	Potential	Very High

12.4 Mobility in soil:

Identification	Absorption/desorption		Volatility	
cyclohexane CAS: 110-82-7	Koc	Not relevant	Henry	Not relevant
	Conclusion	Not relevant	Dry soil	Not relevant
	Surface tension	2.465E-2 N/m (25 °C)	Moist soil	Not relevant
acetone CAS: 67-64-1	Koc	1	Henry	2.93 Pa·m ³ /mol
	Conclusion	Very High	Dry soil	Yes
	Surface tension	2.304E-2 N/m (25 °C)	Moist soil	Yes
Butanone CAS: 78-93-3	Koc	30	Henry	5.77 Pa·m ³ /mol
	Conclusion	Very High	Dry soil	Yes
	Surface tension	2.396E-2 N/m (25 °C)	Moist soil	Yes
ethanol CAS: 64-17-5	Koc	1	Henry	4.61E-1 Pa·m ³ /mol
	Conclusion	Very High	Dry soil	Yes
	Surface tension	2.339E-2 N/m (25 °C)	Moist soil	Yes
Formaldehyde, oligomeric reaction products with phenol CAS: 9003-35-4	Koc	636795	Henry	Not relevant
	Conclusion	Immobile	Dry soil	Not relevant
	Surface tension	Not relevant	Moist soil	Not relevant

12.5 Results of PBT and vPvB assessment:

- CONTINUED ON NEXT PAGE -



Date of compilation: 27/01/2023 Revised: 19/05/2026 Version: 6 (Replaced 5)

SECTION 12: ECOLOGICAL INFORMATION (continued)

Product does not meet PBT/vPvB criteria

12.6 Other adverse effects:

Not described

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods:

Code	Description	Waste class
08 04 09*	waste adhesives and sealants containing organic solvents or other hazardous substances	Hazardous

Type of waste:

HP3 Flammable, HP14 Ecotoxic, HP5 Specific Target Organ Toxicity (STOT)/Aspiration Toxicity, HP4 Irritant — skin irritation and eye damage

Waste management (disposal and evaluation):

Consult the authorized waste service manager on the assessment and disposal operations in accordance The Waste (England & Wales) Regulations 2011, 2011 No. 988. As under 15 01 of the code and in case the container has been in direct contact with the product, it will be processed the same way as the actual product. Otherwise, it will be processed as non-hazardous residue. Waste should not be disposed of to drains. See paragraph 6.2.

Regulations related to waste management:

In accordance with Annex II of UK REACH the provisions related to waste management are stated:

UK legislation: The Waste (England & Wales) Regulations 2011.

SECTION 14: TRANSPORT INFORMATION

Transport of dangerous goods by land:

With regard to ADR 2025 and RID 2025:



- 14.1 UN number:** UN1133
14.2 UN proper shipping name: ADHESIVES
14.3 Transport hazard class(es): 3
Labels: 3
14.4 Packing group: II
14.5 Environmental hazards: Yes
14.6 Special precautions for user
Tunnel restriction code: D/E
Physico-Chemical properties: see section 9
Limited quantities: 5 L
14.7 Transport in bulk according to Annex II of Marpol and the IBC Code: Not relevant

Transport of dangerous goods by sea:

With regard to IMDG 41-22:

- CONTINUED ON NEXT PAGE -



Date of compilation: 27/01/2023

Revised: 19/05/2026

Version: 6 (Replaced 5)

SECTION 14: TRANSPORT INFORMATION (continued)



- 14.1 UN number:** UN1133
14.2 UN proper shipping name: ADHESIVES
14.3 Transport hazard class(es): 3
Labels: 3
14.4 Packing group: II
14.5 Marine pollutant: Yes
14.6 Special precautions for user
Special regulations: Not relevant
EmS Codes: F-E, S-D
Physico-Chemical properties: see section 9
Limited quantities: 5 L
Segregation group: Not relevant
14.7 Transport in bulk according to Annex II of Marpol and the IBC Code: Not relevant

Transport of dangerous goods by air:

With regard to IATA/ICAO 2025:



- 14.1 UN number:** UN1133
14.2 UN proper shipping name: ADHESIVES
14.3 Transport hazard class(es): 3
Labels: 3
14.4 Packing group: II
14.5 Environmental hazards: Yes
14.6 Special precautions for user
Physico-Chemical properties: see section 9
14.7 Transport in bulk according to Annex II of Marpol and the IBC Code: Not relevant

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:

- Substances listed in UK candidate list of substances of very high concern (SVHCs): Not relevant
- Substances listed in UK REACH Authorisation List (Annex 14): Not relevant

The Control of Major Accident Hazards Regulations 2015:

Section	Description	Lower-tier requirements	Upper-tier requirements
P5c	FLAMMABLE LIQUIDS	5000	50000
E1	ENVIRONMENTAL HAZARDS	100	200

Restrictions to commercialisation and the use of certain dangerous substances and mixtures (Annex XVII UK REACH, etc):

Regulation (EU) 2019/1148 on the marketing and use of explosives precursors: Contains acetone. Product under the provisions of Article 9. However, products that contain explosives precursors only to such a small extent and in such complex mixtures that the extraction of the explosives precursors is technically extremely difficult should be excluded from the scope of this Regulation.

Shall not be used in:

- ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ashtrays,
- tricks and jokes,
- games for one or more participants, or any article intended to be used as such, even with ornamental aspects.

Specific provisions in terms of protecting people or the environment:

It is recommended to use the information included in this safety data sheet as a basis for conducting workplace-specific risk assessments in order to establish the necessary risk prevention measures for the handling, use, storage and disposal of this product.

Other legislation:

The REACH etc. (Amendment etc.) (EU Exit) Regulations 2020.

- CONTINUED ON NEXT PAGE -



Date of compilation: 27/01/2023

Revised: 19/05/2026

Version: 6 (Replaced 5)

SECTION 15: REGULATORY INFORMATION (continued)

The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use) (Amendment etc.) (EU Exit) Regulations 2020.

Control of Substances Hazardous to Health Regulations 2002 (as amended)
EH40/2005 Workplace exposure limits.

SECTION 16: OTHER INFORMATION**Legislation related to safety data sheets:**

This safety data sheet has been designed in accordance with ANNEX II-The REACH etc. (Amendment etc.) (EU Exit) Regulations 2020.

Texts of the legislative phrases mentioned in section 2:

H225: Highly flammable liquid and vapour.

H315: Causes skin irritation.

H319: Causes serious eye irritation.

H336: May cause drowsiness or dizziness.

H400: Very toxic to aquatic life.

H410: Very toxic to aquatic life with long lasting effects.

Texts of the legislative phrases mentioned in section 3:

The phrases indicated do not refer to the product itself; they are present merely for informative purposes and refer to the individual components which appear in section 3

GB CLP Regulation (UK S.I. 2019/720 and UK S.I. 2020/1567):

Aquatic Acute 1: H400 - Very toxic to aquatic life.

Aquatic Chronic 1: H410 - Very toxic to aquatic life with long lasting effects.

Aquatic Chronic 2: H411 - Toxic to aquatic life with long lasting effects.

Aquatic Chronic 4: H413 - May cause long lasting harmful effects to aquatic life.

Asp. Tox. 1: H304 - May be fatal if swallowed and enters airways.

Eye Irrit. 2: H319 - Causes serious eye irritation.

Flam. Liq. 2: H225 - Highly flammable liquid and vapour.

Repr. 2: H361 - Suspected of damaging fertility or the unborn child.

Skin Irrit. 2: H315 - Causes skin irritation.

STOT SE 3: H335 - May cause respiratory irritation.

STOT SE 3: H336 - May cause drowsiness or dizziness.

Advice related to training:

Training is recommended in order to prevent industrial risks for staff using this product and to facilitate their comprehension and interpretation of this safety data sheet, as well as the label on the product.

Principal bibliographical sources:

<http://echa.europa.eu>

<http://eur-lex.europa.eu>

Abbreviations and acronyms:

ADR: European agreement concerning the international carriage of dangerous goods by road

IMDG: International maritime dangerous goods code

IATA: International Air Transport Association

ICAO: International Civil Aviation Organisation

COD: Chemical Oxygen Demand

BOD5: 5day biochemical oxygen demand

BCF: Bioconcentration factor

LD50: Lethal Dose 50

LC50: Lethal Concentration 50

EC50: Effective concentration 50

LogPOW: Octanolwater partition coefficient

Koc: Partition coefficient of organic carbon

UFI: unique formula identifier

IARC: International Agency for Research on Cancer

The information contained in this safety data sheet is based on sources, technical knowledge and current legislation at UK, without being able to guarantee its accuracy. This information cannot be considered a guarantee of the properties of the product, it is simply a description of the security requirements. The occupational methodology and conditions for users of this product are not within our awareness or control, and it is ultimately the responsibility of the user to take the necessary measures to obtain the legal requirements concerning the manipulation, storage, use and disposal of chemical products. The information on this safety data sheet only refers to this product, which should not be used for needs other than those specified.

- END OF SAFETY DATA SHEET -

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758
XtraBOND 35 Contact Spray Adhesive

Section 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name: XTRABOND 35 CONTACT SPRAY ADHESIVE
Chemical Name: Not Applicable
Synonyms: Not Available
Proper shipping name: CHEMICAL UNDER PRESSURE FLAMMABLE N.O.S (contains Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane)
Chemical formula: Not Applicable
Other means of identification: Not Available

1.2. Relevant identified uses of the substance or mixture and uses advised against

Chemical Product Category: PC1 Adhesives, sealants
Sectors of Use: SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
SU3 Industrial uses: Uses of substances as such or in preparations* at industrial sites
Relevant identified uses: The use of a quantity of material in an unventilated or confined space may result in increased exposure and an irritating atmosphere developing. Before starting consider control of exposure by mechanical ventilation.
Uses advised against: No specific uses advised against are identified.

1.3. Details of the supplier of the safety data sheet Company name:

Hybond
Unit 1, Grange Business Park
Lancaster Road
Shrewsbury
SY1 3LG
Tel: 01743 861800 Fax: 01743 860064
Email: techsupport@hybond.org.uk

1.4. Emergency telephone number

Emergency tel: 01743 861800 (not 24 hours)

Section 2: Hazards identification

2.1. Classification of the substance or mixture

Classified according to GB-CLP Regulation, UK SI 2019/720 and UK SI 2020/1567 [1]

H222+H229 - Aerosols Category 1, H315 - Skin Corrosion/Irritation Category 2, H319 - Serious Eye Damage/Eye Irritation Category 2, H336 - Specific Target Organ Toxicity - Single Exposure (Narcotic Effects) Category 3, H412 - Hazardous to the Aquatic Environment Long-Term Hazard Category 3

Legend:

1. Classified by Chemwatch; 2. Classification drawn from GB-CLP Regulation, UK SI 2019/720 and UK SI 2020/1567

(CONTINUED ON NEXT PAGE)

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758
XtraBOND 35 Contact Spray Adhesive

2.2. Label Elements

Hazard Pictograms



Signal Word **Danger**

Hazard Statements

- H222** Extremely flammable aerosol.
- H229** Pressurised container: may burst if heated.
- H315** Causes skin irritation.
- H319** Causes serious eye irritation.
- H336** May cause drowsiness or dizziness.
- H412** Harmful to aquatic life with long lasting effects.

Supplementary Statements

Not Applicable

Precautionary Statements Prevention

- P210** Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P211** Do not spray on an open flame or other ignition source.
- P251** Do not pierce or burn, even after use.
- P271** Use only outdoors or in a well-ventilated area.
- P261** Avoid breathing gas.

Precautionary Statements Response

- P305+P351+P338** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P312** Call a POISON CENTER/doctor/physician/first aider/if you feel unwell.
- P337+P313** If eye irritation persists: Get medical advice/attention.
- P302+P352** IF ON SKIN: Wash with plenty of water and soap.
- P304+P340** IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Precautionary statement(s) Storage

- P405** Store locked up.
- P410+P412** Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.
- P403+P233** Store in a well-ventilated place. Keep container tightly closed.

Precautionary statement(s) Disposal

- P501** Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.

(CONTINUED ON NEXT PAGE)

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758
XtraBOND 35 Contact Spray Adhesive

2.3. Other hazards

Inhalation, skin contact and/or ingestion may produce health damage*.

Cumulative effects may result following exposure*.

May produce discomfort of the respiratory system and skin*.

acetone

Listed in the Europe Regulation (EC) No 1907/2006 - Annex XVII (Restrictions may apply)

Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane

Listed in the Europe Regulation (EC) No 1907/2006 - Annex XVII (Restrictions may apply)

Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane

Determined to have endocrine-disrupting properties according to Europe Regulation (EU) 528/2012, Europe Regulation (EU) 2017/2100, and Europe Regulation (EU) 2018/605

dimethyl ether

Listed in the Europe Regulation (EC) No 1907/2006 - Annex XVII (Restrictions may apply)

Section 3: Composition / information on ingredients

3.1. Substances

See 'Composition on ingredients' in Section 3.2

3.2. Mixtures

1. CAS No 2. EC No 3. Index No 4. REACH No	% [weight]	Name	Classified according to GB-CLP Regulation, UK SI 2019/720 and UK SI 2020/1567	SCL / M-Factor	Nanoform Particle Characteristics
1. 67-64-1 2. 200-662-2 3. 606-001-00-8 4. 01-2119471330-49-XXXX	20-30	<u>acetone</u> *	Flammable Liquids Category 2, Serious Eye Damage/Eye Irritation Category 2, Specific Target Organ Toxicity - Single Exposure (Narcotic Effects) Category 3; H225, H319, H336 [2]	Not Available	Not Available
1. 64742-49-0* 2. 921-024-6 3. 649-328-00-1 4. 01-2119475514-35-XXXX	20-30	<u>Hydrocarbons,</u> <u>C6-C7, n-alkanes,</u> <u>isoalkanes,</u> <u>cyclics,</u> <u><5% n-hexane [e]</u>	Specific Target Organ Toxicity - Single Exposure (Narcotic Effects) Category 3, Hazardous to the Aquatic Environment Long- Term Hazard Category 2, Flammable Liquids Category 2, Skin	0	Not Available

(CONTINUED ON NEXT PAGE)

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758
XtraBOND 35 Contact Spray Adhesive

			Corrosion/Irritation Category 2, Aspiration Hazard Category 1; H336, H411, H225, H315, H304 [1]		
1. 115-10-6 2. 204-065-8 3. 603-019-00-8 4. 01-2119472128-37-XXXX	40-60	<u>dimethyl ether</u> *	Flammable Gases Category 1, Gases Under Pressure; H220, H280 [2]	Not Available	Not Available

Legend:

1. Classified by Chemwatch; 2. Classification drawn from GB-CLP Regulation, UK SI 2019/720 and UK SI 2020/1567; 3. Classification drawn from C&L; * EU IOELVs available; [e] Substance identified as having endocrine disrupting properties

Section 4: First aid measures

4.1. Description of first aid measures

Eye Contact

- If product comes in contact with eyes remove the patient from gas source or contaminated area.
- Take the patient to the nearest eye wash, shower or other source of clean water.
- Open the eyelid(s) wide to allow the material to evaporate.
- Gently rinse the affected eye(s) with clean, cool water for at least 15 minutes. Have the patient lie or sit down and tilt the head back. Hold the eyelid(s) open and pour water slowly over the eyeball(s) at the inner corners, letting the water run out of the outer corners.
- The patient may be in great pain and wish to keep the eyes closed. It is important that the material is rinsed from the eyes to prevent further damage.
- Ensure that the patient looks up, and side to side as the eye is rinsed in order to better reach all parts of the eye(s)
- Transport to hospital or doctor.
- Even when no pain persists and vision is good, a doctor should examine the eye as delayed damage may occur.
- If the patient cannot tolerate light, protect the eyes with a clean, loosely tied bandage.
- Ensure verbal communication and physical contact with the patient.

DO NOT allow the patient to rub the eyes

DO NOT allow the patient to tightly shut the eyes

DO NOT introduce oil or ointment into the eye(s) without medical advice

DO NOT use hot or tepid water.

Skin Contact

If skin contact occurs:

- Immediately remove all contaminated clothing, including footwear.
- Flush skin and hair with running water (and soap if available).
- Seek medical attention in event of irritation.

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758
XtraBOND 35 Contact Spray Adhesive

Inhalation

- Following exposure to gas, remove the patient from the gas source or contaminated area.
- NOTE: Personal Protective Equipment (PPE), including positive pressure self-contained breathing apparatus may be required to assure the safety of the rescuer.
- Prostheses such as false teeth, which may block the airway, should be removed, where possible, prior to initiating first aid procedures.
- If the patient is not breathing spontaneously, administer rescue breathing.
- If the patient does not have a pulse, administer CPR.
- If medical oxygen and appropriately trained personnel are available, administer 100% oxygen.
- Summon an emergency ambulance. If an ambulance is not available, contact a physician, hospital, or Poison Control Centre for further instruction.
- Keep the patient warm, comfortable and at rest while awaiting medical care.
- **MONITOR THE BREATHING AND PULSE, CONTINUOUSLY.**
- Administer rescue breathing (preferably with a demand-valve resuscitator, bag-valve mask-device, or pocket mask as trained) or CPR if necessary.

Ingestion

Not considered a normal route of entry.

- If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus.

4.2. Most important symptoms and effects, both acute and delayed

See Section 11

4.3. Indication of any immediate medical attention and special treatment needed

For petroleum distillates

- In case of ingestion, gastric lavage with activated charcoal can be used promptly to prevent absorption - decontamination (induced emesis or lavage) is controversial and should be considered on the merits of each individual case; of course the usual precautions of an endotracheal tube should be considered prior to lavage, to prevent aspiration.
- Individuals intoxicated by petroleum distillates should be hospitalized immediately, with acute and continuing attention to neurologic and cardiopulmonary function.
- Positive pressure ventilation may be necessary.
- Acute central nervous system signs and symptoms may result from large ingestions of aspiration-induced hypoxia.
- After the initial episode, individuals should be followed for changes in blood variables and the delayed appearance of pulmonary oedema and chemical pneumonitis. Such patients should be followed for several days or weeks for delayed effects, including bone marrow toxicity, hepatic and renal impairment. Individuals with chronic pulmonary disease will be more seriously impaired, and recovery from inhalation exposure may be complicated.
- Gastrointestinal symptoms are usually minor and pathological changes of the liver and kidneys are reported to be uncommon in acute intoxications.
- Chlorinated and non-chlorinated hydrocarbons may sensitize the heart to epinephrine and other circulating catecholamines so that arrhythmias may occur. Careful consideration of this potential adverse effect should precede administration of epinephrine or other cardiac stimulants and the selection of bronchodilators. for lower alkyl ethers:

(CONTINUED ON NEXT PAGE)

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758
XtraBOND 35 Contact Spray Adhesive

BASIC TREATMENT

- Establish a patent airway with suction where necessary.
- Watch for signs of respiratory insufficiency and assist ventilation as necessary.
- Administer oxygen by non-rebreather mask at 10 to 15 l/min.
- A low-stimulus environment must be maintained.
- Monitor and treat, where necessary, for shock.
- Anticipate and treat, where necessary, for seizures.
- **DO NOT use emetics.** Where ingestion is suspected rinse mouth and give up to 200 ml water (5 ml/kg recommended) for dilution where patient is able to swallow, has a strong gag reflex and does not drool.

ADVANCED TREATMENT

- Consider orotracheal or nasotracheal intubation for airway control in unconscious patient or where respiratory arrest has occurred.
- Positive-pressure ventilation using a bag-valve mask might be of use.
- Monitor and treat, where necessary, for arrhythmias.
- Start an IV D5W TKO. If signs of hypovolaemia are present use lactated Ringers solution. Fluid overload might create complications.
- Drug therapy should be considered for pulmonary oedema.
- Hypotension without signs of hypovolaemia may require vasopressors.
- Treat seizures with diazepam.
- Proparacaine hydrochloride should be used to assist eye irrigation.

EMERGENCY DEPARTMENT

- Laboratory analysis of complete blood count, serum electrolytes, BUN, creatinine, glucose, urinalysis, baseline for serum aminotransferases (ALT and AST), calcium, phosphorus and magnesium, may assist in establishing a treatment regime. Other useful analyses include anion and osmolar gaps, arterial blood gases (ABGs), chest radiographs and electrocardiograph.
- Ethers may produce anion gap acidosis. Hyperventilation and bicarbonate therapy might be indicated.
- Haemodialysis might be considered in patients with impaired renal function.
- Consult a toxicologist as necessary.
BRONSTEIN, A.C. and CURRANCE, P.L.
EMERGENCY CARE FOR HAZARDOUS MATERIALS EXPOSURE: 2nd Ed. 1994
for simple ketones:

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758
XtraBOND 35 Contact Spray Adhesive

BASIC TREATMENT

- Establish a patent airway with suction where necessary.
- Watch for signs of respiratory insufficiency and assist ventilation as necessary.
- Administer oxygen by non-rebreather mask at 10 to 15 l/min.
- Monitor and treat, where necessary, for pulmonary oedema .
- Monitor and treat, where necessary, for shock.
- **DO NOT** use emetics. Where ingestion is suspected rinse mouth and give up to 200 ml water (5mL/kg recommended) for dilution where patient is able to swallow, has a strong gag reflex and does not drool.
- Give activated charcoal.

ADVANCED TREATMENT

- Consider orotracheal or nasotracheal intubation for airway control in unconscious patient or where respiratory arrest has occurred.
- Consider intubation at first sign of upper airway obstruction resulting from oedema.
- Positive-pressure ventilation using a bag-valve mask might be of use.
- Monitor and treat, where necessary, for arrhythmias.
- Start an IV D5W TKO. If signs of hypovolaemia are present use lactated Ringers solution. Fluid overload might create complications.
- Drug therapy should be considered for pulmonary oedema.
- Hypotension with signs of hypovolaemia requires the cautious administration of fluids. Fluid overload might create complications.
- Treat seizures with diazepam.
- Proparacaine hydrochloride should be used to assist eye irrigation.

EMERGENCY DEPARTMENT

- Laboratory analysis of complete blood count, serum electrolytes, BUN, creatinine, glucose, urinalysis, baseline for serum aminotransferases (ALT and AST), calcium, phosphorus and magnesium, may assist in establishing a treatment regime. Other useful analyses include anion and osmolar gaps, arterial blood gases (ABGs), chest radiographs and electrocardiograph.
- Positive end-expiratory pressure (PEEP)-assisted ventilation may be required for acute parenchymal injury or adult respiratory distress syndrome.
- Consult a toxicologist as necessary.
BRONSTEIN, A.C. and CURRANCE, P.L.
EMERGENCY CARE FOR HAZARDOUS MATERIALS EXPOSURE: 2nd Ed. 1994
For gas exposures:

(CONTINUED ON NEXT PAGE)

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758

XtraBOND 35 Contact Spray Adhesive

BASIC TREATMENT

- Establish a patent airway with suction where necessary.
- Watch for signs of respiratory insufficiency and assist ventilation as necessary.
- Administer oxygen by non-rebreather mask at 10 to 15 l/min.
- Monitor and treat, where necessary, for pulmonary oedema .
- Monitor and treat, where necessary, for shock.
- Anticipate seizures.

ADVANCED TREATMENT

- Consider orotracheal or nasotracheal intubation for airway control in unconscious patient or where respiratory arrest has occurred.
- Positive-pressure ventilation using a bag-valve mask might be of use.
- Monitor and treat, where necessary, for arrhythmias.
- Start an IV D5W TKO. If signs of hypovolaemia are present use lactated Ringers solution. Fluid overload might create complications.
- Drug therapy should be considered for pulmonary oedema.
- Hypotension with signs of hypovolaemia requires the cautious administration of fluids. Fluid overload might create complications.
- Treat seizures with diazepam.
- Proparacaine hydrochloride should be used to assist eye irrigation.

BRONSTEIN, A.C. and CURRANCE, P.L.

EMERGENCY CARE FOR HAZARDOUS MATERIALS EXPOSURE: 2nd Ed. 1994

Section 5: Firefighting measures

5.1. Extinguishing media

DO NOT EXTINGUISH BURNING GAS UNLESS LEAK CAN BE STOPPED SAFELY:

OTHERWISE: LEAVE GAS TO BURN.

FOR SMALL FIRE:

- Dry chemical, CO₂ or water spray to extinguish gas (only if absolutely necessary and safe to do so).
- DO NOT use water jets.

FOR LARGE FIRE:

- Cool cylinder by direct flooding quantities of water onto upper surface until well after fire is out.
- **DO NOT** direct water at source of leak or venting safety devices as icing may occur.

(CONTINUED ON NEXT PAGE)

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758
XtraBOND 35 Contact Spray Adhesive

5.2. Special hazards arising from the substance or mixture

Fire Incompatibility

Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result

5.3 Advice for fire-fighters

Fire Fighting

FOR FIRES INVOLVING MANY GAS CYLINDERS:

To stop the flow of gas, specifically trained personnel may inert the atmosphere to reduce oxygen levels thus allowing the capping of leaking container(s).

Reduce the rate of flow and inject an inert gas, if possible, before completely stopping the flow to prevent flashback.

DO NOT extinguish the fire until the supply is shut off otherwise an explosive re-ignition may occur.

If the fire is extinguished and the flow of gas continues, used increased ventilation to prevent build-up, of explosive atmosphere.

Use non-sparking tools to close container valves.

GENERAL

Alert Fire Brigade and tell them location and nature of hazard.

May be violently or explosively reactive.

Wear breathing apparatus plus protective gloves.

Consider evacuation

Fight fire from a safe distance, with adequate cover.

If safe, switch off electrical equipment until vapour fire hazard removed.

Fire/Explosion Hazard

HIGHLY FLAMMABLE: will be easily ignited by heat, sparks or flames.

Will form explosive mixtures with air

Fire exposed containers may vent contents through pressure relief valves thereby increasing fire intensity and/ or vapour concentration.

Vapours may travel to source of ignition and flash back.

Containers may explode when heated - Ruptured cylinders may rocket

(CONTINUED ON NEXT PAGE)

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758
XtraBOND 35 Contact Spray Adhesive

Fire may produce irritating, poisonous or corrosive gases.

Runoff may create fire or explosion hazard.

Combustion products include:

- carbon monoxide (CO)
- carbon dioxide (CO₂)
- other pyrolysis products typical of burning organic material.
- Contains low boiling substance: Closed containers may rupture due to pressure buildup under fire conditions.

Section 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:

See section 8

6.2 Environmental precautions:

See section 12

6.3 Methods and material for containment and cleaning up:

Minor Spills

Avoid breathing vapour and any contact with liquid or gas. Protective equipment including respirator should be used.

DO NOT enter confined spaces where gas may have accumulated.

Shut off all sources of possible ignition and increase ventilation.

Clear area of personnel.

Major Spills

Clear area of all unprotected personnel and move upwind.

Alert Emergency Authority and advise them of the location and nature of hazard.

May be violently or explosively reactive.

Wear full body clothing with breathing apparatus.

Prevent by any means available, spillage from entering drains and water-courses.

Remove leaking cylinders to a safe place.

Fit vent pipes. Release pressure under safe, controlled conditions

(CONTINUED ON NEXT PAGE)

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758
XtraBOND 35 Contact Spray Adhesive

Burn issuing gas at vent pipes.

DO NOT exert excessive pressure on valve; **DO NOT** attempt to operate damaged valve.

6.4 Reference to other sections:

Personal Protective Equipment advice is contained in Section 8 of the SDS.

Section 7: Handling and storage

7.1 Precautions for safe handling:

Safe handling

The conductivity of this material may make it a static accumulator., A liquid is typically considered nonconductive if its conductivity is below 100 pS/m and is considered semi-conductive if its conductivity is below 10 000 pS/m., Whether a liquid is nonconductive or semi-conductive, the precautions are the same., A number of factors, for example liquid temperature, presence of contaminants, and anti-static additives can greatly influence the conductivity of a liquid.

Containers, even those that have been emptied, may contain explosive vapours.

Do NOT cut, drill, grind, weld or perform similar operations on or near containers.

Electrostatic discharge may be generated during pumping - this may result in fire.

Ensure electrical continuity by bonding and grounding (earthing) all equipment.

Restrict line velocity during pumping in order to avoid generation of electrostatic discharge (≤ 1 m/sec until fill pipe submerged to twice its diameter, then ≤ 7 m/sec).

Avoid splash filling.

DO NOT use compressed air for filling discharging or handling operations.

Consider use in closed pressurised systems, fitted with temperature, pressure and safety relief valves which are vented for safe dispersal. Use only properly specified equipment which is suitable for this product, its supply pressure and temperature

(CONTINUED ON NEXT PAGE)

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758
XtraBOND 35 Contact Spray Adhesive

The tubing network design connecting gas cylinders to the delivery system should include appropriate pressure indicators and vacuum or suction lines.

Fully-welded types of pressure gauges, where the bourdon tube sensing element is welded to the gauge body, are recommended.

Before connecting gas cylinders, ensure manifold is mechanically secure and does not contain another gas. Before disconnecting gas cylinder, isolate supply line segment proximal to cylinder, remove trapped gas in supply line with aid of vacuum pump

When connecting or replacing cylinders take care to avoid airborne particulates violently ejected when system pressurises.

Avoid generation of static electricity. Earth all lines and equipment.

DO NOT transfer gas from one cylinder to another.

Fire and explosion protection

See section 5

Other information

Cylinders should be stored in a purpose-built compound with good ventilation, preferably in the open.

Such compounds should be sited and built in accordance with statutory requirements.

The storage compound should be kept clear and access restricted to authorised personnel only.

Cylinders stored in the open should be protected against rust and extremes of weather.

Cylinders in storage should be properly secured to prevent toppling or rolling.

7.2 Conditions for safe storage, including any incompatibilities:

Suitable container

Cylinder:

Ensure the use of equipment rated for cylinder pressure.

Ensure the use of compatible materials of construction.

Valve protection cap to be in place until cylinder is secured, connected.

Cylinder must be properly secured either in use or in storage.

Cylinder valve must be closed when not in use or when empty.

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758
XtraBOND 35 Contact Spray Adhesive

Storage incompatibility

Dimethyl ether:

is a peroxidisable gas

may be heat and shock sensitive

is able to form unstable peroxides on prolonged exposure to air

reacts violently with oxidisers, aluminium hydride, lithium aluminium hydride

is incompatible with strong acids, metal salts

Low molecular weight alkanes are a type of chemical compounds that can be found in gases or liquids. These alkanes:

Can cause a dangerous reaction with strong oxidizers, chlorine, chlorine dioxide, and dioxygenyl tetrafluoroborate when there is oxygen and heat present.

Are incompatible with halogens.

Can create static charges due to their low conductivity, leading to an accumulation of static charge.

Should be kept away from flames and ignition sources.

Acetone:

may react violently with a variety of substances, including but not limited to activated carbon, halogenated compounds, perchlorates, chromic acids, liquid oxygen and strong acids.

will react violently with bromoform and chloroform when in contact with alkaline substances

may form unstable and explosive peroxides when in contact with strong oxidisers, fluorine, hydrogen peroxide (90%), sodium perchlorate, or 2-methyl-1,3-butadiene

can make nitromethane more explosive

will dissolve most rubbers, resins and plastics

Ketones in this group:

are reactive with many acids and bases liberating heat and flammable gases (e.g., H₂).

react with reducing agents such as hydrides, alkali metals, and nitrides to produce flammable gas (H₂) and heat.

are incompatible with isocyanates, aldehydes, cyanides, peroxides, and anhydrides.

react violently with aldehydes, HNO₃ (nitric acid), HNO₃ + H₂O₂ (mixture of nitric acid and hydrogen peroxide), and HClO₄ (perchloric acid).

may react with hydrogen peroxide to form unstable peroxides; many are heat- and shock-sensitive explosives.

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758
XtraBOND 35 Contact Spray Adhesive

Ethers

may react violently with strong oxidising agents and acids.

can act as bases.- they form salts with strong acids and addition complexes with Lewis acids; the complex between diethyl ether and boron trifluoride is an example.

are generally stable to water under neutral conditions and ambient temperatures.

are hydrolysed by heating in the presence of halogen acids, particularly hydrogen iodide

are relatively inert in other reactions, which typically involve the breaking of the carbon-oxygen bond

The tendency of many ethers to form explosive peroxides is well documented.

Ethers lacking non-methyl hydrogen atoms adjacent to the ether link are thought to be relatively safe.

When solvents have been freed from peroxides (by percolation through a column of activated alumina for example), the absorbed peroxides must promptly be desorbed by treatment with the polar solvents methanol or water, which should be discarded safely.

Compressed gases may contain a large amount of kinetic energy over and above that potentially available from the energy of reaction produced by the gas in chemical reaction with other substances

Hazard categories in accordance with Regulation (EC) No 1272/2008

P3b: Flammable Aerosols

Qualifying quantity (tonnes) of dangerous substances as referred to in Article 3(10) for the application of

P3b Lower- / Upper-tier requirements: 5 000 (net) / 50 000 (net)

7.3 Specific end use(s):

Specific end use(s)

The identified uses for this product are detailed in Section 1.2.

Section 8: Exposure Controls / Personal protection

8.1 Control parameters

Ingredient	DNELs Exposure Pattern Worker	PNECs Compartment
acetone	Dermal 121 mg/kg bw/day (Systemic, Chronic) Inhalation 1 210 mg/m ³ (Systemic, Chronic) Inhalation 850 mg/m ³ (Local, Chronic) Inhalation 1 700 mg/m ³ (Systemic, Acute) Inhalation 2 420 mg/m ³ (Local, Acute) Dermal 43 mg/kg bw/day (Systemic, Chronic) * Inhalation 151 mg/m ³ (Systemic, Chronic) *	10.6 mg/L (Water (Fresh)) 21 mg/L (Water - Intermittent release) 1.06 mg/L (Water (Marine)) 30.4 mg/kg sediment dw (Sediment (Fresh Water)) 3.04 mg/kg sediment dw (Sediment (Marine)) 29.5 mg/kg soil dw (Soil)

(CONTINUED ON NEXT PAGE)

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758

XtraBOND 35 Contact Spray Adhesive

	Oral 43 mg/kg bw/day (Systemic, Chronic) * Inhalation 151 mg/m ³ (Local, Chronic) * Inhalation 302 mg/m ³ (Systemic, Acute) *	100 mg/L (STP)
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane	Dermal 13 964 mg/kg bw/day (Systemic, Chronic) Inhalation 1.9 mg/m ³ (Systemic, Chronic) Inhalation 837.5 mg/m ³ (Local, Chronic) Inhalation 1 286.4 mg/m ³ (Systemic, Acute) Inhalation 1 066.67 mg/m ³ (Local, Acute) Dermal 1 377 mg/kg bw/day (Systemic, Chronic) * Inhalation 0.41 mg/m ³ (Systemic, Chronic) * Oral 1 301 mg/kg bw/day (Systemic, Chronic) * Inhalation 178.57 mg/m ³ (Local, Chronic) * Inhalation 1 152 mg/m ³ (Systemic, Acute) * Inhalation 640 mg/m ³ (Local, Acute) *	Not Available
dimethyl ether	Inhalation 1 894 mg/m ³ (Systemic, Chronic) Inhalation 471 mg/m ³ (Systemic, Chronic) *	0.155 mg/L (Water (Fresh)) 1.549 mg/L (Water - Intermittent release) 0.016 mg/L (Water (Marine)) 0.681 mg/kg sediment dw (Sediment (Fresh Water)) 0.069 mg/kg sediment dw (Sediment (Marine)) 0.045 mg/kg soil dw (Soil) 160 mg/L (STP)

* Values for General Population

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
UK Workplace Exposure Limits (WELs).	acetone	Acetone	500 ppm / 1210 mg/m ³	3620 mg/m ³ / 1500 ppm	Not Available	Not Available
UK Workplace Exposure Limits (WELs).	dimethyl ether	Dimethyl ether	400 ppm / 766 mg/m ³	958 mg/m ³ / 500 ppm	Not Available	Not Available

Emergency Limits

Ingredient	TEEL-1	TEEL-2	TEEL-3
acetone	Not Available	Not Available	Not Available
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane	1,000 mg/m ³	11,000 mg/m ³	66,000 mg/m ³
dimethyl ether	3,000 ppm	3800* ppm	7200* ppm

(CONTINUED ON NEXT PAGE)

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758
XtraBOND 35 Contact Spray Adhesive

Ingredient	Original IDLH	Revised IDLH
acetone	2,500 ppm	Not Available
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane	Not Available	Not Available
dimethyl ether	Not Available	Not Available

Occupational Exposure Banding

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane	E	≤ 0.1 ppm
Notes:	Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.	

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.

The basic types of engineering controls are:

Process controls which involve changing the way a job activity or process is done to reduce the risk.

Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment. Ventilation can remove or dilute an air contaminant if designed properly.

8.2.2. Individual protection measures, such as personal protective equipment



(CONTINUED ON NEXT PAGE)

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758
XtraBOND 35 Contact Spray Adhesive

Eye and face protection

Safety glasses with side shields.

Chemical goggles. [AS/NZS 1337.1, EN166 or national equivalent]

Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience.

Skin protection

See Hand protection below

Hands/feet protection

When handling sealed and suitably insulated cylinders wear cloth or leather gloves.

Body protection

See Other protection below

Other protection

The clothing worn by process operators insulated from earth may develop static charges far higher (up to 100 times) than the minimum ignition energies for various flammable gas-air mixtures. This holds true for a wide range of clothing materials including cotton.

Avoid dangerous levels of charge by ensuring a low resistivity of the surface material worn outermost.

BREThERICK: Handbook of Reactive Chemical Hazards.
Protective overalls, closely fitted at neck and wrist.
Eye-wash unit.

IN CONFINED SPACES:

Non-sparking protective boots

Static-free clothing.

Ensure availability of lifeline.

Staff should be trained in all aspects of rescue work.

Some plastic personal protective equipment (PPE) (e.g. gloves, aprons, overshoes) are not recommended as they may produce static electricity.

For large scale or continuous use wear tight-weave non-static clothing (no metallic fasteners, cuffs or pockets).

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758
XtraBOND 35 Contact Spray Adhesive

Non sparking safety or conductive footwear should be considered.
Conductive footwear describes a boot or shoe with a sole made from a conductive compound chemically bound to the bottom components, for permanent control to electrically ground the foot and shall dissipate static electricity from the body to reduce the possibility of ignition of volatile compounds. Electrical resistance must range between 0 to 500,000 ohms.

Recommended material(s)

GLOVE SELECTION INDEX

Glove selection is based on a modified presentation of the:

"Forsberg Clothing Performance Index".

The effect(s) of the following substance(s) are taken into account in the computer-generated selection:

Material CPI	CPI
BUTYL	A
BUTYL/NEOPRENE	C
CPE	C
HYPALON	C
NATURAL RUBBER	C
NATURAL+NEOPRENE	C
NEOPRENE	C
NITRILE	C
NITRILE+PVC	C
PE/EVAL/PE	C
PVA	C
PVC	C
PVDC/PE/PVDC	C
SARANEX-23	C
SARANEX-23 2-PLY	C
TEFLON	C
VITON/NEOPRENE	C

* CPI - Chemwatch Performance Index

A: Best Selection

B: Satisfactory; may degrade after 4 hours continuous immersion

C: Poor to Dangerous Choice for other than short term immersion

NOTE: As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -

* Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

(CONTINUED ON NEXT PAGE)

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758
XtraBOND 35 Contact Spray Adhesive

Respiratory protection

Type AX Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required. Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 10 x ES	Air-line*	AX-2	AX-PAPR-2 ^
up to 20 x ES	-	AX-3	-
20+ x ES	-	Air-line**	-

* - Continuous-flow; ** - Continuous-flow or positive pressure demand

^ - Full-face

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO₂), G = Agricultural chemicals, K = Ammonia(NH₃), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content.

The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.

Cartridge performance is affected by humidity. Cartridges should be changed after 2 hr of continuous use unless it is determined that the humidity is less than 75%, in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily, regardless of the length of time used

Positive pressure, full face, air-supplied breathing apparatus should be used for work in enclosed spaces if a leak is suspected or the primary containment is to be opened (e.g. for a cylinder change)

Air-supplied breathing apparatus is required where release of gas from primary containment is either suspected or demonstrated.

Selection of the Class and Type of respirator will depend upon the level of breathing zone contaminant and the chemical nature of the contaminant. Protection Factors (defined as the ratio of contaminant outside and inside the mask) may also be important.

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758
XtraBOND 35 Contact Spray Adhesive

Required minimum protection factor	Maximum gas/vapour concentration present in air p.p.m. (by volume)	Half-face Respirator	Full-Face Respirator
up to 10	1000	AX-AUS / Class 1	-
up to 50	1000	-	AX-AUS / Class 1
up to 50	5000	Airline *	-
up to 100	5000	-	AX-2
up to 100	10000	-	AX-3
100+		-	Airline**

** - Continuous-flow or positive pressure demand.

A(All classes) = Organic vapours, B AUS or B1 = Acid gases, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO₂), G = Agricultural chemicals, K = Ammonia(NH₃), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 deg C)

8.2.3. Environmental exposure controls

See section 12

Section 9: Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance	Coloured
Physical state	Dissolved Gas
Relative density (Water = 1)	0.87
Odour	Not Available
Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available
Auto-ignition temperature (°C)	Not Available
pH (as supplied)	7
Decomposition temperature (°C)	Not available
Melting point / freezing point (°C)	Not available
Viscosity (cSt)	283
Initial boiling point and boiling range (°C)	56.05
Molecular weight (g/mol)	Not Available
Flash point (°C)	-17
Taste	Not Available
Evaporation rate	Not Available
Explosive properties	Not Available
Flammability	HIGHLY FLAMMABLE.

(CONTINUED ON NEXT PAGE)

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758
XtraBOND 35 Contact Spray Adhesive

Oxidising properties	Not Available
Upper Explosive Limit (%)	13
Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	2.5
Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	Not Available
Gas group	Not Available
Solubility in water	Immiscible
pH as a solution (1%)	Not Available
Vapour density (Air = 1)	Not Available
VOC g/L	552.10
Nanoform Solubility	Not Available
Nanoform Particle Characteristics	Not Available
Particle Size	Not Available

9.2 Other information

Not Available

Section 10: Stability and reactivity

10.1 Reactivity

Reactivity See section 7.2

10.2 Chemical stability

Stability Unstable in the presence of incompatible materials.
Product is considered stable.
Hazardous polymerisation will not occur.

10.3 Possibility of hazardous reactions

Possibility of hazardous reactions See section 7.2

10.4 Conditions to avoid

Conditions to avoid See section 7.2

10.5 Incompatible materials

Materials to avoid See section 7.2

10.6 Hazardous decomposition products:

Hazardous decomposition products See section 7.2

Section 11: Toxicological information

11.1. Information on toxicological effects

Inhaled The material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage.

(CONTINUED ON NEXT PAGE)

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758
XtraBOND 35 Contact Spray Adhesive

Inhalation of vapours may cause drowsiness and dizziness. This may be accompanied by sleepiness, reduced alertness, loss of reflexes, lack of co-ordination, and vertigo.

Inhalation of non-toxic gases may cause:

CNS effects: headache, confusion, dizziness, stupor, seizures and coma;
respiratory: shortness of breath and rapid breathing;
cardiovascular: collapse and irregular heart beats;
gastrointestinal: mucous membrane irritation, nausea and vomiting.

Inhaling high concentrations of mixed hydrocarbons can cause narcosis, with nausea, vomiting and lightheadedness. Low molecular weight (C2-C12) hydrocarbons can irritate mucous membranes and cause incoordination, giddiness, nausea, vertigo, confusion, headache, appetite loss, drowsiness, tremors and stupor.

Central nervous system (CNS) depression may include general discomfort, symptoms of giddiness, headache, dizziness, nausea, anaesthetic effects, slowed reaction time, slurred speech and may progress to unconsciousness. Serious poisonings may result in respiratory depression and may be fatal.

Following inhalation, ethers cause lethargy and stupor. Inhaling lower alkyl ethers results in headache, dizziness, weakness, blurred vision, seizures and possible coma.

Nerve damage can be caused by some non-ring hydrocarbons. Symptoms are temporary, and include weakness, tremors, increased saliva, some convulsions, excessive tears with discolouration and inco-ordination lasting up to 24 hours.

Inhalation of high concentrations of gas/vapour causes lung irritation with coughing and nausea, central nervous depression with headache and dizziness, slowing of reflexes, fatigue and inco-ordination.

Material is highly volatile and may quickly form a concentrated atmosphere in confined or unventilated areas. The vapour may displace and replace air in breathing zone, acting as a simple asphyxiant. This may happen with little warning of overexposure. The use of a quantity of material in an unventilated or confined space may result in increased exposure and an irritating atmosphere developing. Before starting consider control of exposure by mechanical ventilation.

Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may be damaging to the health of the individual.

(CONTINUED ON NEXT PAGE)

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758
XtraBOND 35 Contact Spray Adhesive

Ingestion

Ingestion of alkyl ethers may produce stupor, blurred vision, headache, dizziness and irritation of the nose and throat. Respiratory distress and asphyxia may result.

Not normally a hazard due to physical form of product.

Considered an unlikely route of entry in commercial/industrial environments Isoparaffinic hydrocarbons cause temporary lethargy, weakness, inco-ordination and diarrhoea.

Ingestion of petroleum hydrocarbons can irritate the pharynx, oesophagus, stomach and small intestine, and cause swellings and ulcers of the mucous. Symptoms include a burning mouth and throat; larger amounts can cause nausea and vomiting, narcosis, weakness, dizziness, slow and shallow breathing, abdominal swelling, unconsciousness and convulsions.

Swallowing of the liquid may cause aspiration into the lungs with the risk of chemical pneumonitis; serious consequences may result. (ICSC13733)

Skin Contact

The material may accentuate any pre-existing dermatitis condition

Skin contact with the material may damage the health of the individual; systemic effects may result following absorption.

Skin exposure to isoparaffins may produce slight to moderate irritation in animals and humans. Rare sensitisation reactions in humans have occurred.

Alkyl ethers may defat and dehydrate the skin producing dermatoses. Absorption may produce headache, dizziness, and central nervous system depression.

Open cuts, abraded or irritated skin should not be exposed to this material

Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects.

Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.

There is some evidence to suggest that the material may cause mild but significant inflammation of the skin either following direct contact or after a delay of some time. Repeated exposure can cause contact dermatitis which is characterised by redness, swelling and blistering.

(CONTINUED ON NEXT PAGE)

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758
XtraBOND 35 Contact Spray Adhesive

Eye

Instillation of isoparaffins into rabbit eyes produces only slight irritation.

Not considered to be a risk because of the extreme volatility of the gas.
Eye contact with alkyl ethers (vapour or liquid) may produce irritation, redness and tears.

Direct eye contact with petroleum hydrocarbons can be painful, and the corneal epithelium may be temporarily damaged.

Aromatic species can cause irritation and excessive tear secretion.

The liquid may produce eye discomfort and is capable of causing temporary impairment of vision and/or transient eye inflammation, ulceration

There is evidence that material may produce eye irritation in some persons and produce eye damage 24 hours or more after instillation. Severe inflammation may be expected with pain.

Chronic

Long-term exposure to respiratory irritants may result in airways disease, involving difficulty breathing and related whole-body problems.

Toxic: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.

This material can cause serious damage if one is exposed to it for long periods. It can be assumed that it contains a substance which can produce severe defects.

Ample evidence from experiments exists that there is a suspicion this material directly reduces fertility.

Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.

Constant or exposure over long periods to mixed hydrocarbons may produce stupor with dizziness, weakness and visual disturbance, weight loss and anaemia, and reduced liver and kidney function. Skin exposure may result in drying and cracking and redness of the skin.

Main route of exposure to the gas in the workplace is by inhalation.

Chronic exposure to alkyl ethers may result in loss of appetite, excessive thirst, fatigue, and weight loss.

(CONTINUED ON NEXT PAGE)

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758
XtraBOND 35 Contact Spray Adhesive

Workers exposed to acetone for long periods showed inflammation of the airways, stomach and small bowel, attacks of giddiness and loss of strength. Exposure to acetone may enhance the liver toxicity of chlorinated solvents.

Prolonged or repeated skin contact may cause drying with cracking, irritation and possible dermatitis following.

	TOXICITY	IRRITATION
XtraBOND 35	Not Available	Not Available
acetone	Dermal (rabbit) LD50: 20000 mg/kg[2]	Eye (human): 500 ppm - irritant
	Inhalation(Mouse) LC50; 44 mg/L4h[2]	Eye (rabbit): 20mg/24hr - moderate
	Oral (Rat) LD50: 5800 mg/kg[2]	Eye (rabbit): 3.95 mg - SEVERE
		Eye: adverse effect observed (irritating)[1]
		Skin (rabbit): 500 mg/24hr - mild
		Skin (rabbit):395mg (open) - mild
		Skin: no adverse effect observed (not irritating)[1]
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane	Dermal (rabbit) LD50: >1900 mg/kg[1]	Eye: no adverse effect observed (not irritating)[1]
	Inhalation(Rat) LC50: >4.42 mg/L4h[1]	Skin: adverse effect observed (irritating)[1]
	Oral (Rat) LD50: >2000 mg/kg[1]	
dimethyl ether	Inhalation(Rat) LC50: >20000 ppm4h[1]	Not Available
Legend:	1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances	

XtraBOND 35

Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Other criteria for diagnosis of RADS include a reversible airflow pattern on lung function tests, moderate to severe bronchial hyperreactivity on methacholine challenge testing, and the lack of minimal lymphocytic inflammation, without eosinophilia. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance.

(CONTINUED ON NEXT PAGE)

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758
XtraBOND 35 Contact Spray Adhesive

ACETONE

The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.

Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane

Most Low Boiling Point Naphthas (LBPNs) have low acute toxicity to oral, dermal and inhalation routes of exposure, and mild to moderate skin and eye irritating effects. However, some heavier 'cracked' LBPNs (LKBPNs with greater olefinic content) have been found to be more irritating to the skin and eyes compared to non-cracked LBPNs.

LBPNs are not known to be sensitising to the skin.

Animal studies examined the effects of short-term and longer-term exposure to LBPNs through inhalation or oral routes. In male rats specifically, exposure to LBPNs resulted in kidney-related issues like increased kidney weight, kidney lesions, and hyaline droplet formation. However, the same effects were not seen in female rats, mice, or humans due to a mechanism of action involving a particular enzyme only found in male rats. Limited studies found that exposure through inhalation caused an increase in liver weight in both male and female rats.

Petroleum contains aromatic (benzene, toluene, ethyl benzene, naphthalene) and aliphatic hydrocarbons (n-hexane), which can result in many detrimental health effects, including, cancer, tumour formation, hearing loss, and nervous system toxicity. Animal testing shows breathing in petroleum causes tumours of the liver and kidney; these are however not considered to be relevant in humans. Similarly, exposure to gasoline over a lifetime can cause kidney cancer in animals, but the relevance in humans is questionable.

Most studies involving gasoline have shown that gasoline does not cause genetic mutation, including all recent studies in living human subjects (such as in petrol service station attendants).

Animal studies show concentrations of toluene (>0.1%) can cause developmental effects such as lower birth weight and developmental toxicity to the nervous system of the foetus. Other studies show no adverse effects on the foetus.

Prolonged contact with petroleum may result in skin inflammation and make the skin more sensitive to irritation and penetration by other materials.

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758
XtraBOND 35 Contact Spray Adhesive

XtraBOND 35 & Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane

Animal studies indicate that normal, branched and cyclic paraffins are absorbed from the gastrointestinal tract and that the absorption of n-paraffins is inversely proportional to the carbon chain length, with little absorption above C30. With respect to the carbon chain lengths likely to be present in mineral oil, n-paraffins may be absorbed to a greater extent than iso- or cycloparaffins.

The major classes of hydrocarbons are well absorbed into the gastrointestinal tract in various species. In many cases, the hydrophobic hydrocarbons are ingested in association with fats in the diet. Some hydrocarbons may appear unchanged as in the lipoprotein particles in the gut lymph, but most hydrocarbons partly separate from fats and undergo metabolism in the gut cell. The gut cell may play a major role in determining the proportion of hydrocarbon that becomes available to be deposited unchanged in peripheral tissues such as in the body fat stores or the liver.

XtraBOND 35 & ACETONE

For acetone:

The acute toxicity of acetone is low. Acetone is not a skin irritant or sensitizer, but it removes fat from the skin, and it also irritates the eye. Animal testing shows acetone may cause anaemia. Studies in humans have shown that exposure to acetone at a level of 2375 mg/m³ does not negatively impact an individual's emotional regulation, behavior, or learning ability.

Acute Toxicity	✗	Carcinogenicity	✗
Skin Irritation/Corrosion	✓	Reproductivity	✗
Serious Eye Damage/Irritation	✓	STOT - Single Exposure	✓
Respiratory or Skin sensitisation	✗	STOT - Repeated Exposure	✗
Mutagenicity	✗	Aspiration Hazard	✗

Legend:



- Data available to make classification
- Data either not available or does not fill the criteria for classification

11.2 Information on other hazards

11.2.1. Endocrine disrupting properties

Many chemicals may mimic or interfere with the body's hormones, known as the endocrine system. Endocrine disruptors are chemicals that can interfere with endocrine (or hormonal) systems.

Endocrine disruptors interfere with the synthesis, secretion, transport, binding, action, or elimination of natural hormones in the body. Any system in the body controlled by hormones can be derailed by hormone disruptors. Specifically, endocrine disruptors may be associated with the development of learning disabilities, deformations of the body, various cancers and sexual development problems.

Endocrine disrupting chemicals cause adverse effects in animals. But limited scientific information exists on potential health problems in humans. Because people are typically exposed to multiple endocrine disruptors at the same time, assessing public health effects is difficult.

(CONTINUED ON NEXT PAGE)

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758
XtraBOND 35 Contact Spray Adhesive

11.2.2. Other information

See Section 11.1

Section 12: Ecological Information

12.1 Toxicity

Toxicity

	Endpoint	Test Duration (hr)	Species	Value	Source
XtraBOND 35	Not Available	Not Available	Not Available	Not Available	Not Available
acetone	LC50	96h	Fish	3744.6-5000.7mg/L	4
	NOEC(ECx)	12h	Fish	0.001mg/L	4
	EC50	72h	Algae or other aquatic plants	5600-10000mg/l	4
	EC50	48h	Crustacea	6098.4mg/L	5
	EC50	96h	Algae or other aquatic plants	9.873-27.684mg/l	4
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane	EC50	48h	Crustacea	0.64mg/l	2
	EC50	96h	Algae or other aquatic plants	64mg/l	2
	LC50	96h	Fish	4.26mg/l	2
	NOEC(ECx)	504h	Crustacea	0.17mg/l	2
dimethyl ether	EC50	48h	Crustacea	>4400mg/L	2
	EC50	96h	Algae or other aquatic plants	154.917mg/l	2
	LC50	96h	Fish	1783.04mg/l	2
	NOEC(ECx)	48h	Crustacea	>4000mg/l	1
Legend:	Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data				

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters.

Wastes resulting from use of the product must be disposed of on site or at approved waste sites.

When released in the environment, alkanes don't undergo rapid biodegradation, because they have no functional groups (like hydroxyl or carbonyl) that are needed by most organisms in order to metabolize the compound.

However, some bacteria can metabolise some alkanes (especially those linear and short), by oxidizing the terminal carbon atom. The product is an alcohol, that could be next oxidised to an aldehyde, and finally to a carboxylic acid. The resulting fatty acid could be metabolised through the fatty acid degradation pathway.

For petroleum distillates:

(CONTINUED ON NEXT PAGE)

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758
XtraBOND 35 Contact Spray Adhesive

Environmental fate:

When petroleum substances are released into the environment, four major fate processes will take place: dissolution in water, volatilization, biodegradation and adsorption. These processes will cause changes in the composition of these UVCB substances. In the case of spills on land or water surfaces, photodegradation another fate process-can also be significant. As noted previously, the solubility and vapour pressure of components within a mixture will differ from those of the component alone. These interactions are complex for complex UVCBs such as petroleum hydrocarbons. Most ethers are very resistant to hydrolysis, and the rate of cleavage of the carbon-oxygen bond by abiotic processes is expected to be insignificant.

Direct photolysis will not be an important removal process since aliphatic ethers do not absorb light at wavelengths >290 nm

For n-Heptane: Log Kow: 4.66; Koc: 2400-8100; Half-life (hr) Air: 52.8; Half-life (hr) Surface Water: 2.9-312; Henry's atm m³/mol: 2.06; BOD 5 (if unstated): 1.92; COD: 0.06; BCF: 340-2000; Log BCF: 2.53-3.31.

Atmospheric Fate: Breakdown of n-heptane by sunlight is not expected to be an important fate process. If released to the atmosphere, n-heptane is expected to exist entirely in the vapor phase, in ambient air. Reactions hydroxyl radicals in the atmosphere have been shown to be important. Night-time reactions with nitrate radicals may contribute to the atmospheric transformation of n-heptane, especially in urban environments.

For Ketones: Ketones, unless they are alpha, beta-unsaturated ketones, can be considered as narcosis or baseline toxicity compounds.

Aquatic Fate: Hydrolysis of ketones in water is thermodynamically favourable only for low molecular weight ketones.

Reactions with water are reversible with no permanent change in the structure of the ketone substrate. Ketones are stable to water under ambient environmental conditions. When pH levels are greater than 10, condensation reactions can occur which produce higher molecular weight products.

For Acetone:

log Kow : -0.24;

Half-life (hr) air : 312-1896;

Half-life (hr) H₂O surface water : 20;

Henry's atm m³/mol : 3.67E-05

BOD 5: 0.31-1.76, 46-55%

COD: 1.12-2.07

ThOD: 2.2 BCF: 0.69.

Environmental Fate: The relatively long half-life allows acetone to be transported long distances from its emission source.

Atmospheric Fate: Acetone preferentially locates in the air compartment when released to the environment. In air, acetone is lost by photolysis and reaction with photochemically produced hydroxyl radicals; the estimated half-life of these combined processes is about 22 days. Air Quality Standards: none available.

DO NOT discharge into sewer or waterways.

12.2 Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
acetone	LOW (Half-life = 14 days)	MEDIUM (Half-life = 116.25 days)
dimethyl ether	LOW	LOW

(CONTINUED ON NEXT PAGE)

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758
XtraBOND 35 Contact Spray Adhesive

12.3 Bioaccumulative potential

Ingredient	Bioaccumulation
acetone	LOW (BCF = 0.69)
dimethyl ether	LOW (LogKOW = 0.1)

12.4 Mobility in soil

Ingredient	Mobility
acetone	HIGH (KOC = 1.981)
dimethyl ether	HIGH (KOC = 1.292)

12.5 Results of PBT and vPvB assessment

	P	B	T
Relevant available data	Not Available	Not Available	Not Available
PBT	✗	✗	✗
vPvB	✗	✗	✗
PBT Criteria fulfilled?			No
vPvB			No

12.6 Other adverse effects

The evidence linking adverse effects to endocrine disruptors is more compelling in the environment than it is in humans. Endocrine disruptors profoundly alter reproductive physiology of ecosystems and ultimately impact entire populations. Some endocrine-disrupting chemicals are slow to break-down in the environment. That characteristic makes them potentially hazardous over long periods of time. Some well-established adverse effects of endocrine disruptors in various wildlife species include; eggshell-thinning, displayed of characteristics of the opposite sex and impaired reproductive development. Other adverse changes in wildlife species that have been suggested, but not proven include; reproductive abnormalities, immune dysfunction and skeletal deformities.

12.7 Other adverse effects

No evidence of ozone depleting properties were found in the current literature.

(CONTINUED ON NEXT PAGE)

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758
XtraBOND 35 Contact Spray Adhesive

Section 13: Disposal Considerations

13.1. Waste treatment methods

Product / Packaging disposal	DO NOT allow wash water from cleaning or process equipment to enter drains. It may be necessary to collect all wash water for treatment before disposal. In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first. Where in doubt contact the responsible authority. Evaporate or incinerate residue at an approved site. Return empty containers to supplier. Ensure damaged or non-returnable cylinders are gas-free before disposal.
Waste treatment options	Not Available
Sewage disposal options	Not Available

Section 14: Transport information

Labels Required

	
Marine Pollutant	NO
HAZCHEM	2YE

Land transport (ADR-RID)

14.1. UN number or ID number	3501				
14.2. UN proper shipping name	CHEMICAL UNDER PRESSURE, FLAMMABLE, N.O.S. (contains Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane)				
14.3. Transport hazard class(es)	<table> <tr> <td>Class</td><td>2.1</td></tr> <tr> <td>Subsidiary risk</td><td>Not Applicable</td></tr> </table>	Class	2.1	Subsidiary risk	Not Applicable
Class	2.1				
Subsidiary risk	Not Applicable				
14.4. Packing group	Not Applicable				
14.5. Environmental hazard	Not Applicable				

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758
XtraBOND 35 Contact Spray Adhesive

14.6. Special precautions for user	Hazard identification (Kemler)	23
	Classification code	8F
	Hazard Label	2.1
	Special provisions	274 659
	Limited quantity	0
	Tunnel Restriction Code	2 (B/D)

Air transport (ICAO-IATA / DGR)

14.1. UN number	3501	
14.2. UN proper shipping name	Chemical under pressure, flammable, n.o.s. * (contains Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane)	
14.3. Transport hazard class(es)	ICAO/IATA Class	2.1
	ICAO / IATA Subsidiary Hazard	Not Applicable
	ERG Code	10L
14.4. Packing group	Not Applicable	
14.5. Environmental hazard	Not Applicable	
14.6. Special precautions for user	Special provisions	A1 A187
	Cargo Only Packing Instructions	218
	Cargo Only Maximum Qty / Pack	75 kg
	Passenger and Cargo Packing Instructions	Forbidden
	Passenger and Cargo Maximum Qty / Pack	Forbidden
	Passenger and Cargo Limited Quantity Packing Instructions	Forbidden
	Passenger and Cargo Limited Maximum Qty / Pack	Forbidden

(CONTINUED ON NEXT PAGE)

SAFETY DATA SHEET

According to Regulation (EC) No 1907/2006, Annex II, as amended. Commission Regulation (EU) No 2015/830 of 28 May 2015.

XtraBOND 35 Contact Spray Adhesive

Sea transport (IMDG-Code / GGVSee)

14.1. UN number	3501	
14.2. UN proper shipping name	CHEMICAL UNDER PRESSURE, FLAMMABLE, N.O.S. (contains Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane)	
14.3. Transport hazard class(es)	IMDG Class 2.1	
	IMDG Subrisk	Not Applicable
14.4. Packing group	Not Applicable	
14.5. Environmental hazard	Not Applicable	
14.6. Special precautions for user	EMS Number	F-D, S-U
	Special provisions	274 362
	Limited Quantities	0

Inland waterways transport (ADN)

14.1. UN number	3501	
14.2. UN proper shipping name	CHEMICAL UNDER PRESSURE, FLAMMABLE, N.O.S. (contains Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane)	
14.3. Transport hazard class(es)	2.1	Not Applicable
14.4. Packing group	Not Applicable	
14.5. Environmental hazard	Not Applicable	
14.6. Special precautions for user	Classification code	8F
	Special provisions	274; 659
	Limited quantity	0
	Equipment required	PP, EX, A
	Fire cones number	1

14.7. Maritime transport in bulk according to IMO instruments

14.7.1. Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

SAFETY DATA SHEET

According to Regulation (EC) No 1907/2006, Annex II, as amended. Commission Regulation (EU) No 2015/830 of 28 May 2015.

XtraBOND 35 Contact Spray Adhesive

14.7.2. Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group
acetone	Not Available
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane	Not Available
dimethyl ether	Not Available

14.7.3. Transport in bulk in accordance with the IGC Code

Product name	Ship Type
acetone	Not Available
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane	Not Available
dimethyl ether	Not Available

Section 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

acetone is found on the following regulatory lists

Great Britain GB mandatory classification and labelling list (GB MCL)
UK Workplace Exposure Limits (WELs).

Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List
Great Britain GB mandatory classification and labelling list (GB MCL)
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Not Classified as Carcinogenic

dimethyl ether is found on the following regulatory lists

Great Britain GB mandatory classification and labelling list (GB MCL)
UK Workplace Exposure Limits (WELs).

This safety data sheet is in compliance with the following EU legislation and its adaptations - as far as applicable - :
Directives 98/24/EC, - 92/85/EEC, - 94/33/EC, - 2008/98/EC, - 2010/75/EU; Commission Regulation (EU) 2020/878;
Regulation (EC) No 1272/2008 as updated through ATPs.

Information according to 2012/18/EU (Seveso III):

SAFETY DATA SHEET
According to Regulation (EC) No 1907/2006, Annex II, as amended. Commission Regulation (EU)
No 2015/830 of 28 May 2015.
XtraBOND 35 Contact Spray Adhesive

Seveso Category	P3b
------------------------	-----

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

ECHA SUMMARY

Ingredient	CAS number	Index No	ECHA Dossier
acetone	67-64-1	606-001-00-8	01-2119471330-49-XXXX

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Flam. Liq. 2; Eye Irrit. 2; STOT SE 3	GHS07; GHS02; Dgr	H225; H319; H336
2	Flam. Liq. 2; Eye Irrit. 2A; STOT SE 3; STOT SE 3; Skin Irrit. 2; Skin Sens. 1; Aquatic Chronic 2	Dgr; GHS01; GHS08; GHS06; GHS09	H225; H319; H336; H371; H228; H315; H312; H335; H302; H332; H340; H317; H411

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

Ingredient	CAS number	Index No	ECHA Dossier
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane	64742-49-0*	649-328-00-1	01-2119475514-35-XXXX

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
-------------------------------	-----------------------------------	--------------------------------	--------------------------

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Asp. Tox. 1; Muta. 1B; Carc. 1B	GHS08; Dgr	H304; H340; H350
2	Asp. Tox. 1; Muta. 1B; Carc. 1B; Flam. Liq. 1; Skin Irrit. 2; STOT SE 3; Repr. 2; Eye Irrit. 2; STOT RE 1; Acute Tox. 4; STOT SE 3; Acute Tox. 4; Aquatic Acute 1; Aquatic Chronic 1	GHS08; Dgr; GHS02; GHS09; GHS03; GHS05	H304; H340; H350; H224; H315; H336; H361; H319; H372; H332; H335; H302; H400; H410

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

Ingredient	CAS number	Index No	ECHA Dossier
------------	------------	----------	--------------

SAFETY DATA SHEET
According to Regulation (EC) No 1907/2006, Annex II, as amended. Commission Regulation (EU) No 2015/830 of 28 May 2015.
XtraBOND 35 Contact Spray Adhesive

dimethyl ether	115-10-6	603-019-00-8	01-2119472128-37-XXXX
----------------	----------	--------------	--

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Flam. Gas 1	GHS02; GHS04; Dgr	H220
2	Flam. Gas 1; Comp.; Muta. 1B; Carc. 1A; STOT SE 3; STOT SE 1; Skin Irrit. 2; Eye Irrit. 2	GHS04; Dgr; GHS01; GHS08	H220; H280; H336; H370; H315; H319

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

National Inventory Status

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	Yes
Canada - DSL	Yes
Canada - NDSL	No (acetone; Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane; dimethyl ether) n-hexane;="" dimethyl="">
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	No (Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane)>
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	Yes
Taiwan - TCSI	Yes
Mexico - INSQ	Yes
Vietnam - NCI	Yes
Russia - FBEPH	Yes
Legend:	<i>Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.</i>

Section 16: Other information

SAFETY DATA SHEET
According to Regulation (EC) No 1907/2006, Annex II, as amended. Commission Regulation (EU)
No 2015/830 of 28 May 2015.
XtraBOND 35 Contact Spray Adhesive

Revision Date 17/08/2023

Initial Date 17/08/2023

Full text Risk and Hazard codes

H220	Extremely flammable gas.
H224	Extremely flammable liquid and vapour.
H225	Highly flammable liquid and vapour.
H228	Flammable solid.
H280	Contains gas under pressure; may explode if heated.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H317	May cause an allergic skin reaction.
H335	Harmful if inhaled.
H340	May cause respiratory irritation.
H350	May cause genetic defects.
H361	May cause cancer.
H370	Suspected of damaging fertility or the unborn child.
H371	Causes damage to organs.
H372	May cause damage to organs.
H400	Causes damage to organs through prolonged or repeated exposure.
H410	Very toxic to aquatic life.
H411	Very toxic to aquatic life with long lasting effects.
H361	Toxic to aquatic life with long lasting effects.

SDS Version Summary

Version	Date of Update	Sections Updated
0.3	17/08/2023	Hazards identification - Classification, Composition / information on ingredients - Ingredients, Name

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

For detailed advice on Personal Protective Equipment, refer to the following EU CEN Standards:

EN 166 Personal eye-protection

EN 340 Protective clothing

EN 374 Protective gloves against chemicals and micro-organisms

EN 13832 Footwear protecting against chemicals

EN 133 Respiratory protective devices

SAFETY DATA SHEET
According to Regulation (EC) No 1907/2006, Annex II, as amended. Commission Regulation (EU)
No 2015/830 of 28 May 2015.
XtraBOND 35 Contact Spray Adhesive

Definitions and abbreviations

PC—TWA: Permissible Concentration-Time Weighted Average
PC—STEL: Permissible Concentration-Short Term Exposure Limit
IARC: International Agency for Research on Cancer
ACGIH: American Conference of Governmental Industrial Hygienists
STEL: Short Term Exposure Limit
TEEL: Temporary Emergency Exposure Limit.
IDLH: Immediately Dangerous to Life or Health Concentrations
ES: Exposure Standard
OSF: Odour Safety Factor
NOAEL :No Observed Adverse Effect Level
LOAEL: Lowest Observed Adverse Effect Level
TLV: Threshold Limit Value
LOD: Limit Of Detection
OTV: Odour Threshold Value
BCF: BioConcentration Factors
BEI: Biological Exposure Index
AIIIC: Australian Inventory of Industrial Chemicals
DSL: Domestic Substances List
NDSL: Non-Domestic Substances List
IECSC: Inventory of Existing Chemical Substance in China
EINECS: European INventory of Existing Commercial chemical Substances
ELINCS: European List of Notified Chemical Substances
NLP: No-Longer Polymers
ENCS: Existing and New Chemical Substances Inventory
KECI: Korea Existing Chemicals Inventory
NZIoC: New Zealand Inventory of Chemicals
PICCS: Philippine Inventory of Chemicals and Chemical Substances
TSCA: Toxic Substances Control Act
TCSI: Taiwan Chemical Substance Inventory
INSQ: Inventario Nacional de Sustancias Químicas
NCI: National Chemical Inventory
FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]

Classification according to regulation (EC) No 1272/2008 [CLP] and amendments	
	Classification Procedure
Aerosols Category 1, H222+H229	Expert judgement
Skin Corrosion/Irritation Category 2, H315	Calculation method
Serious Eye Damage/Eye Irritation Category 2, H319	Calculation method

SAFETY DATA SHEET

According to Regulation (EC) No 1907/2006, Annex II, as amended. Commission Regulation (EU) No 2015/830 of 28 May 2015.

XtraBOND 35 Contact Spray Adhesive

Specific Target Organ Toxicity - Single Exposure (Narcotic Effects) Category 3, H336	Calculation method
Hazardous to the Aquatic Environment Long-Term Hazard Category 3, H412	Calculation method

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.

END OF SAFETY DATA SHEET

**Safety Data Sheet**

according to UK REACH Regulation

ACMOS 37-9830

Revision date: 04.10.2021

Page 1 of 28

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

ACMOS 37-9830

1.2. Relevant identified uses of the substance or mixture and uses advised against**Relevant identified uses**

Release agent for PUR

Uses advised against

Consumer uses: Private households (= general public = consumers)

Sector of uses [SU]: 21

Do not use for private purposes (household).

Relevant identified uses - Further information:

Industrial uses: Uses of substances as such or in preparations at industrial sites

Sector of uses [SU]: 3

The product is intended for professional use.

In compliance with the conditions described in the annex to this safety data sheet.

Summary of registered and identified uses and their respective exposure scenarios: see annex to this safety data sheet.

See section 16 for a comprehensive list of uses, for which an exposure scenario is provided as an annex.

1.3. Details of the supplier of the safety data sheet**Manufacturer**

Company name: ACMOS CHEMIE KG

Street: Industriestrasse 49

Place: D-28199 Bremen

Post-office box: 10 10 69

D-28010 Bremen

Telephone: +49 (0)421-5189-0

Telefax: +49 (0)421-511415

e-mail: acmos@acmos.com

Contact person: Mr. Stephan Dryhaus

e-mail: sds@acmos.com

Internet: www.acmos.com

Responsible Department: Laboratory (Division: Occupational- / Product security) - see under section 16

1.4. Emergency telephone number:

+49 (0)551 19240 (Emergency information service / official advisory body:

Giftinformationszentrum Nord, Universität Göttingen, 24 h from mo. - su.)

Language(s) of Telephone Service: DE, EN

Supplier

Company name: ACMOS U.K. Ltd., Willow Bank House

Street: Old Lane, Heswall

Place: GB-CH60 1 XX Wirral, Merseyside

Telephone: +44-(0)151-348 4849

Telefax: +44-(0)151-348 4850

e-mail: info@acmos.co.uk

Contact person: Mr. Stephen Spriggs

Telephone: +44-783 158 0003
(mobile)**1.4. Emergency telephone number:**

+44 111 (Emergency information service / official advisory body: National Poisons

Information Service - NPIS Birmingham) (<https://www.npis.org>)

Language(s) of Telephone Service: EN

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****GB CLP Regulation**

Eye Irrit. 2; H319

Aquatic Chronic 2; H411

Full text of hazard statements: see SECTION 16.

2.2. Label elements**GB CLP Regulation**

Safety Data Sheet

according to UK REACH Regulation

ACMOS 37-9830

Revision date: 04.10.2021

Page 2 of 28

Signal word:

Warning

Pictograms:



Hazard statements

- H319 Causes serious eye irritation.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

- P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 If eye irritation persists: Get medical advice/attention.
P391 Collect spillage.

Special labelling of certain mixtures

- EUH208 Contains stannane, dibutylbis(dodecylthio)- (dibutyltin bis(lauryl mercaptide)); reaction mass of 5 -chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1). May produce an allergic reaction.
Labeling according to Regulation (EU) No 528/2012 on biocides, Article 58 (3) and Regulation (EC) No 1272/2008, Article 25 (due to the specific conditions of the active substance approval): a) Contains biocidal products: Product-type 6: Preservatives for products during storage. b) Property attributed to the treated article: None c) Name of all active ingredients: See product label. d) Names of contained nanomaterials: None e) Relevant use instructions: Use personal protective equipment as required.

Additional advice on labelling

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

2.3. Other hazards

Adverse physicochemical effects:
See section 9 for physical and chemical properties.

Adverse human health effects and symptoms:
See section 11 for toxicological information.
May cause sensitisation especially in sensitive humans.

Adverse environmental effects:
See section 12 for environmental information.

Other adverse effects:
Special danger of slipping by leaking/spilling product.

Results of PBT-/vPvB-assessment:
See under section 12.5 - Results of PBT and vPvB assessment.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

Emulsion of active ingredients in water

**Safety Data Sheet**

according to UK REACH Regulation

ACMOS 37-9830

Revision date: 04.10.2021

Page 3 of 28

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (GB CLP Regulation)			
124-30-1	octadecylamine			1 - < 3 %
	204-695-3	612-282-00-8	01-2119473804-32	
	Skin Irrit. 2, Eye Dam. 1, STOT RE 2, Asp. Tox. 1, Aquatic Acute 1, Aquatic Chronic 1; H315 H318 H373 H304 H400 H410			
90622-57-4	hydrocarbons, C11-C12, isoalkanes, <2% aromatics			1 - < 5 %
	918-167-1		01-2119472146-39	
	Asp. Tox. 1, Aquatic Chronic 4; H304 H413 EUH066			
1185-81-5	stannane, dibutylbis(dodecylthio)- (dibutyltin bis(lauryl mercaptide))			< 0,3 %
	214-688-7		01-2119841260-50	
	Muta. 2, Repr. 1B, Acute Tox. 4, Skin Irrit. 2, Skin Sens. 1, STOT RE 1, Aquatic Acute 1, Aquatic Chronic 1; H341 H360FD H312 H315 H317 H372 H400 H410			
63843-89-0	bis(1,2,2,6,6-pentamethyl-4-piperidyl) [[3,5-bis(1,1-dimethylethyl)4-hydroxyphenyl]methyl]butylmalonate			< 0.1 %
	264-513-3		01-2119978231-37	
	Acute Tox. 4, STOT RE 1, Aquatic Chronic 1; H302 H372 H410			
90640-32-7	amines, C16-18-alkyl			< 0.1 %
	292-550-5		01-2119473799-15	
	Skin Irrit. 2, Eye Dam. 1, STOT RE 2, Asp. Tox. 1, Aquatic Acute 1, Aquatic Chronic 1; H315 H318 H373 H304 H400 H410			
55965-84-9	reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)			< 0,0015 %
	911-418-6	613-167-00-5	01-2120764691-48	
	Acute Tox. 2, Acute Tox. 2, Acute Tox. 3, Skin Corr. 1C, Eye Dam. 1, Skin Sens. 1A, Aquatic Acute 1, Aquatic Chronic 1; H330 H310 H301 H314 H318 H317 H400 H410 EUH071			

Full text of H and EUH statements: see section 16.

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
		Specific Conc. Limits, M-factors and ATE	
124-30-1	204-695-3	octadecylamine	1 - < 3 %
		inhalation: LC50 = > 0,099 mg/l (dusts or mists); dermal: LD50 = > 2000 mg/kg; oral: LD50 = > 2000 mg/kg M acute; H400: M=10 M chron.; H410: M=10	
90622-57-4	918-167-1	hydrocarbons, C11-C12, isoalkanes, <2% aromatics	1 - < 5 %
		inhalation: LC50 = > 5,6 mg/l (dusts or mists); dermal: LD50 = > 5000 mg/kg; oral: LD50 = > 5000 mg/kg	
1185-81-5	214-688-7	stannane, dibutylbis(dodecylthio)- (dibutyltin bis(lauryl mercaptide))	< 0,3 %
		dermal: LD50 = 1000 - 2000 mg/kg; oral: LD50 = > 2000 mg/kg M acute; H400: M=1 M chron.; H410: M=1	
63843-89-0	264-513-3	bis(1,2,2,6,6-pentamethyl-4-piperidyl) [[3,5-bis(1,1-dimethylethyl)4-hydroxyphenyl]methyl]butylmalonate	< 0.1 %
		inhalation: LC50 = > 0,46 mg/l (dusts or mists); dermal: LD50 = > 3170 mg/kg; oral: LD50 = 1490 mg/kg M chron.; H410: M=10	
90640-32-7	292-550-5	amines, C16-18-alkyl	< 0.1 %
		dermal: LD50 = > 2000 mg/kg; oral: LD50 = > 5000 mg/kg M acute; H400: M=10 M chron.; H410: M=10	
55965-84-9	911-418-6	reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)	< 0,0015 %
		inhalation: ATE = 0,5 mg/l (vapours); inhalation: LC50 = > 0,33 mg/l (dusts or mists); dermal: LD50 = > 87 mg/kg; oral: LD50 = 64 - 66 mg/kg Skin Corr. 1C; H314: >= 0,6 - 100 Skin Irrit. 2; H315: >= 0,06 - < 0,6 Eye Dam. 1; H318: >= 0,6 - 100 Eye Irrit. 2; H319: >= 0,06 - < 0,6 Skin Sens. 1A; H317: >= 0,0015 - 100 M acute; H400: M=100 M chron.; H410: M=100	

**Safety Data Sheet**

according to UK REACH Regulation

ACMOS 37-9830

Revision date: 04.10.2021

Page 4 of 28

Further Information

The above mentioned EC-No. (Provisional List Number 9xx-xxx-x) is a specific subset of the specified CAS-No. and was associated with the registration process automatically (without CAS-No. or numeric identifier). An official announcement by the EC inventory will follow after evaluation of substance identity by the ECHA. The new nomenclature of hydrocarbon solvents is only related with group names of the HSPA (Hydrocarbon Solvents Producers Association). The previously used CAS-No. continues serving as a reference for different global inventories. The classification of hydrocarbon mixtures made in consideration of the applicable notes in annex VI of regulation (EC) No. 1272/2008.

SECTION 4: First aid measures**4.1. Description of first aid measures****General information**

Remove affected person from the danger area and lay down.
Take off immediately all contaminated clothing and wash it before reuse.
Put victim at rest, cover with a blanket and keep warm.
Do not leave affected person unattended.
If a person vomits when lying on his back, place him in the recovery position.
If breathing is irregular or stopped, administer artificial respiration.
If unconscious but breathing normally, place in recovery position and seek medical advice.
Never give anything by mouth to an unconscious person or a person with cramps.
In the event of cardiac arrest immediately perform cardiopulmonary resuscitation.
In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

Self-protection of the first aider:
Wear personal protection equipment (refer to section 8).
First Aid.

Notes for the doctor:
No special measures are necessary.

After inhalation

Remove victim out of the danger area.
Provide fresh air.
Consult a doctor immediately in the case of inhaling spray mist and show him packing or label.

After contact with skin

Wash immediately with:
Water and soap
Rub greasy ointment into the skin.
Do not wash with:
Solvents/Thinner
In case of skin irritation, consult a physician.

After contact with eyes

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.
Remove contact lenses, if present and easy to do. Continue rinsing.
Protect uninjured eye.

After ingestion

Do NOT induce vomiting.
Give nothing to eat or drink.
Never give anything by mouth to an unconscious person or a person with cramps.
Call a physician immediately.

4.2. Most important symptoms and effects, both acute and delayed

The following symptoms may occur:
Cough
Allergic reactions
Acidosis
Nausea

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

**Safety Data Sheet**

according to UK REACH Regulation

ACMOS 37-9830

Revision date: 04.10.2021

Page 5 of 28

SECTION 5: Firefighting measures**5.1. Extinguishing media****Suitable extinguishing media**

Full water jet
Water spray jet
Water mist
Extinguishing powder (ABC-powder)
Foam
Carbon dioxide (CO₂)

Fire class: not relevant

Unsuitable extinguishing media

None known

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products:
None known
The product itself does not burn.

5.3. Advice for firefighters

Usual measures of preventive and averting fire protection.
Co-ordinate fire-fighting measures to the fire surroundings.
Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Special protective equipment for firefighters
not relevant

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures****General advice**

Avoid contact with skin, eyes and clothes.
Do not breathe vapour/aerosol.
Prevent further leakage or spillage if safe to do so.
Provide adequate ventilation.
Special danger of slipping by leaking/spilling product.

For non-emergency personnel:
Use personal protection equipment.
Walk out of the danger zone and notify trained personnel.
Emergency procedures:
Keep the factory emergency plan and the information chain.

For emergency responders:
Use personal protection equipment.
The personal protective equipment must be adapted to the situation.
Suitable material:
See under section 8.2 - Personal protection equipment.

6.2. Environmental precautions

Do not allow to enter into surface water or drains.
Do not allow to enter into soil/subsoil.
Ensure waste is collected and contained.
In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

6.3. Methods and material for containment and cleaning up**Other information**

For containment:
Repair leaks if without risk.
Move containers from spill area.
Make sure spills can be contained, e.g. in sump pallets or kerbed areas.

**Safety Data Sheet**

according to UK REACH Regulation

ACMOS 37-9830

Revision date: 04.10.2021

Page 6 of 28

Prevent spread over a wide area (e.g. by containment or oil barriers).
Remove from the water surface (e.g. skimming, sucking).
Cover drains.

For cleaning up:

Clean-up methods - large spillage:

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

Shovel into suitable container for disposal.

Local authorities should be advised if significant spillages cannot be contained.

Clean-up methods - small spillage:

Clear spills immediately.

Wipe up with absorbent material (eg. cloth, fleece).

Collect in closed and suitable containers for disposal.

Clear contaminated areas thoroughly.

Recommended cleansing agent:

Clean with detergents. Avoid solvent cleaners.

Retain contaminated washing water and dispose it.

Ensure all waste water is collected and treated via a waste water treatment plant.

Ventilate affected area.

Suitable material for taking up:

Sand

Kieselguhr

Universal binder

Absorbing material, organic

Unsuitable material for taking up:

None known

6.4. Reference to other sections

Personal protection equipment: see section 8

Disposal: see section 13

SECTION 7: Handling and storage**7.1. Precautions for safe handling****Advice on safe handling**

Measures to prevent aerosol and dust generation:

All work processes must always be designed so that the following is as low as possible:

Inhalation of vapours or spray/mists

Eye contact

Skin contact

Technical ventilation of workplace

Use only in a exhaust booth with integrated air filter.

Use in ventilated spray booths only.

Recirculation of exhaust air is not recommended.

Always close containers tightly after the removal of product.

Advice on protection against fire and explosion

Measures to prevent fire:

The product is not: Combustible

Usual measures for fire prevention.

Fire-fighting equipment on the basis of class B.

Further information on handling

Environmental precautions:

Transfer wash-downs in sealed containers.

Provide for retaining containers, e.g. floor pan without outflow.

For restriction of emission on volatile organic compounds (VOC) the solvent vapours should be supplied to an exhaust air purification facility (filter, gas washer, incineration).

Advices on general occupational hygiene:

**Safety Data Sheet**

according to UK REACH Regulation

ACMOS 37-9830

Revision date: 04.10.2021

Page 7 of 28

Wear personal protection equipment (refer to section 8).
Minimum standard for preventive measures while handling with working materials are specified in the TRGS 500.
General industrial hygiene practice.
Handle in accordance with good industrial hygiene and safety practice.
Working places should be designed to allow cleaning at any time.
Floors, walls and other surfaces in the hazard area must be cleaned regularly.
Clean spray booth and exhaust hood completely with every product change.
When using do not eat, drink, smoke, sniff.
Thorough skin-cleansing after handling the product.
Used working clothes should not be worn outside the work area.

7.2. Conditions for safe storage, including any incompatibilities**Requirements for storage rooms and vessels**

Suitable floor material:
Floors should be impervious, resistant to liquids and easy to clean.

Protect against:
Heat
Cold

Recommended storage temperature: +10 ... +30 °C

Keep away from:
Food and feedingstuffs

Packaging materials:
Suitable container/equipment material:
Keep/Store only in original container.
Unsuitable container/equipment material:
See under section 8.2 - Hand protection.

Hints on joint storage

Do not store together with:
Storage class:
1 (Explosive hazardous substances)
6.2 (Infectious substances)
7 (Radioactive substances)

Further information on storage conditions

Technical measures and storage conditions:
The valid water and zoning ordinances must be observed.
Keep container tightly closed.
Protect containers against damage.
Ensure adequate ventilation of the storage area.
Do not store outside.
See also instructions on the label.

7.3. Specific end use(s)

Recommendation:
Possibilities for substitution and references to less hazardous products:
This product was designed for a special application purpose and optimized appropriately.
In case of questions regarding product and application, please contact our field service in line with customer service or our technical sales department.
Observe technical data sheet.

Industrial sector specific solutions:

Hazardous substance information systems of professional associations:

SECTION 8: Exposure controls/personal protection**8.1. Control parameters**



Safety Data Sheet

according to UK REACH Regulation

ACMOS 37-9830

Revision date: 04.10.2021

Page 8 of 28

Exposure limits (EH40)

CAS No	Substance	ppm	mg/m³	fibres/ml	Category	Origin
-	Cycloalkanes >= C7	-	800		TWA (8 h)	WEL
-	Normal and branched chain alkanes >= C7 (it excludes n-heptane)	-	1200		TWA (8 h)	WEL
-	Tin compounds, organic, except Cyhexatin (ISO), (as Sn)	-	0.1		TWA (8 h)	WEL
		-	0.2		STEL (15 min)	WEL

DNEL/DMEL values

CAS No	Substance			
DNEL type		Exposure route	Effect	Value
124-30-1	octadecylamine			
Worker DNEL, long-term		dermal	systemic	0,09 mg/kg bw/day
Worker DNEL, long-term		inhalation	systemic	0,38 mg/m³
Consumer DNEL, long-term		oral	systemic	0,04 mg/kg bw/day
63843-89-0	bis(1,2,2,6,6-pentamethyl-4-piperidyl) [[3,5-bis(1,1-dimethylethyl)4-hydroxyphenyl]methyl]butylmalonate			
Worker DNEL, long-term		dermal	systemic	0,07 mg/kg bw/day
Worker DNEL, long-term		inhalation	systemic	0,05 mg/m³
Consumer DNEL, long-term		dermal	systemic	0,033 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	0,01 mg/m³
Consumer DNEL, long-term		oral	systemic	0,003 mg/kg bw/day
90640-32-7	amines, C16-18-alkyl			
Worker DNEL, long-term		inhalation	local	1 mg/m³
Consumer DNEL, long-term		inhalation	systemic	0,035 mg/m³
Worker DNEL, long-term		inhalation	systemic	0,38 mg/m³
Consumer DNEL, long-term		oral	systemic	0,04 mg/kg bw/day
55965-84-9	reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)			
Worker DNEL, long-term		inhalation	local	0,02 mg/m³
Worker DNEL, acute		inhalation	local	0,04 mg/m³
Consumer DNEL, long-term		inhalation	local	0,02 mg/m³
Consumer DNEL, acute		inhalation	local	0,04 mg/m³
Consumer DNEL, long-term		oral	systemic	0,09 mg/kg bw/day
Consumer DNEL, acute		oral	systemic	0,11 mg/kg bw/day

**Safety Data Sheet**

according to UK REACH Regulation

ACMOS 37-9830

Revision date: 04.10.2021

Page 9 of 28

PNEC values

CAS No	Substance	
Environmental compartment		Value
124-30-1	octadecylamine	
Freshwater		0,00026 mg/l
Marine water		0,000026 mg/l
Freshwater sediment		0,179 mg/kg
Marine sediment		0,0179 mg/kg
Micro-organisms in sewage treatment plants (STP)		0,55 mg/l
Soil		10 mg/kg
63843-89-0	bis(1,2,2,6,6-pentamethyl-4-piperidyl) [[3,5-bis(1,1-dimethylethyl)4-hydroxyphenyl]methyl]butylmalonate	
Freshwater		0,00004 mg/l
Marine water		0,00000 mg/l
Freshwater sediment		504,4 mg/kg
Marine sediment		50,44 mg/kg
Micro-organisms in sewage treatment plants (STP)		1 mg/l
Soil		1 mg/kg
90640-32-7	amines, C16-18-alkyl	
Freshwater		0,00026 mg/l
Freshwater sediment		0,0039 mg/kg
Micro-organisms in sewage treatment plants (STP)		0,550 mg/l
Soil		10 mg/kg
55965-84-9	reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)	
Freshwater		0,00339 mg/l
Marine water		0,00339 mg/l
Freshwater sediment		0,027 mg/kg
Marine sediment		0,027 mg/kg
Soil		0,01 mg/kg

Additional advice on limit values

GESTIS - International Limit Values - Institut für Arbeitsschutz der Deutschen Gesetzlichen Unfallversicherung (IFA):

<http://limitvalue.ifa.dguv.de>

Country information (EU)

<http://www.dguv.de/ifa/fachinfos/occupational-exposure-limit-values/foreign-and-eu-limit-values/index.jsp>Country information (GB) (<http://www.hse.gov.uk/pubns/books/eh40.htm>)

Occupational Exposure Limits of EU-memberstates - European Agency for Safety and Health at Work (OSHA)

<http://osha.europa.eu/en/topics/ds/oel/index.stm/members.stm>Source of law: EH40 (GB) (<http://www.hse.gov.uk>)

Recommended monitoring procedures:

Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents (BS EN 14042):

Personal air monitoring

Room air monitoring

Test tube

Gas warning system

Preliminary concentration measurements:

Suitable detector tubes for measuring the current concentration in the air at the workplace: DRÄGER test tubes - short-term tubes (<http://www.gasmesstechnik.de>)DRÄGER test tubes - Short-term tubes - Petroleum hydrocarbons 10 / a (n-octane, measuring range: 10 - 300 ppm, response time: 60 sec) (<http://www.gasmesstechnik.de>)DRÄGER test tubes - Short-term tubes - Petroleum hydrocarbons 100 / a (n-octane, measuring range: 100 - 2500 ppm, response time: 30 sec) (<http://www.gasmesstechnik.de>)

Safety Data Sheet

according to UK REACH Regulation

ACMOS 37-9830

Revision date: 04.10.2021

Page 10 of 28

Exposure limits at intended use:

DNEL-/PNEC-values:

Further information: see exposure scenarios attached to this safety data sheet.

Risk management measures according to used control banding approach:

Control banding for chemicals according to the ILO CHEMICAL CONTROL TOOLKIT (ICCT): ICCT-Guidelines and Control Guidance Sheets (http://www.ilo.org/legacy/english/protection/safework/ctrl_banding/toolkit/main_guide.pdf)

Used model:

Consider appropriate model solutions according to good engineering practices on designing the working process, if available.

8.2. Exposure controls



Appropriate engineering controls

Substance/mixture related measures to prevent exposure during identified uses:

Technical measures to prevent exposure:

Design of appropriate work processes and engineering controls and the use of adequate materials (physical cut-off of man and machine, model solutions as certified working methods, working appliance according to the state of the art, optimization of process / spray robots, working appliance for prevention of skin contact, models of working times).

Organisational measures to prevent exposure:

Execution of collective protection measures at source and appropriate organisational measures (local exhaust ventilation, ventilation by technical means, general ventilation, measures on averting a danger at breakdowns / at emergencies / after accidents, first-aid-measures, manner related measures: operating instruction / instruction of employees, occupational medicine health precaution).

Structural measures to prevent exposure:

Execution of individual and personnel protection measures (personal protective equipment - PPE).

If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn.

Technical measures and the application of suitable work processes have priority over personal protection equipment.

References for design of technical equipment:

See under section 7.1 - Precautions for safe handling.

Summary of the risk management measures for exposure scenario:

Use only the following product amount per time unit:

No information available.

Minimum room-width and room-height for handling/application:

No information available.

Minimum room ventilation rate for handling/application (air changes per hour):

No information available.

Individual protection measures, such as personal protective equipment

Eye/face protection

If required according to hazard assessment:

Suitable eye protection:

Eye glasses with side protection (EN 166)

Recommended eye protection articles:

**Safety Data Sheet**

according to UK REACH Regulation

ACMOS 37-9830

Revision date: 04.10.2021

Page 11 of 28

UVEX I-VO / UVEX I-3 / UVEX SUPER OTG
Or comparable articles from other companies.

Hand protection

Skin protection:

Preventive skin protection.:

Draw up skin protection programme.

Before starting work, apply water-resistant skincare preparations.

e.g. saniwip®, dualin® (PETER GREVEN PHYSIODERM)

Wash hands before breaks and after work.

e.g. ecosan®, topscrub® soft / topscrub® extra / topscrub® nature (PETER GREVEN PHYSIODERM)

After cleaning apply high-fat content skin care cream.

e.g. physioderm® creme, cura soft® / cUrea soft® (PETER GREVEN PHYSIODERM)

Apply skin care products after work.

If required according to hazard assessment:

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits.

The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances.

Decrease wearing protection gloves to an inevitable degree to avoid skin rash.

Technical and organizational protective actions have to be preferred.

Breakthrough times and swelling properties of the material must be taken into consideration.

Check leak tightness/impermeability prior to use.

Wear cotton undermitten if possible.

Change preventive gloves once by hour or use special skin-protective preparations for protective gloves carrier,

e.g. physioderm® proGlove (PETER GREVEN PHYSIODERM)

Take recovery periods for skin regeneration.

Do not wear gloves near rotary machines and tools.

Dispose preventive gloves after defect or expiry of wearing time. Replace when worn.

In the case of wanting to use the gloves again, clean them before taking off and air them well.

Wearing time with permanent contact:

Suitable gloves type

Gloves with long cuffs

Recommended glove articles:

Suitable materials at long term, direct contact (Recommended: Preventive index 6, accordingly > 480 min. permeation time in accordance to EN 374):

Nitrile rubber / NBR (KCL-CAMATRIL VELOURS® - Art. No. 730) - Layer thickness: 0,4 mm

Or comparable articles from other companies.

Unsuitable material:

NR (natural rubber, Natural latex)

Wearing time with occasional contact (splashes):

Suitable gloves type

Disposable gloves

Recommended glove articles:

Suitable materials at short term contact or splash (Recommended: Preventive index 3, accordingly > 60 min. permeation time in accordance to EN 374):

Disposable gloves of special nitrile rubber / NBR (KCL-DERMATRIL® P - Art. No. 743) - Layer thickness: 0,2 mm

Or comparable articles from other companies.

The statements are based on self-tests, literary reference and information of glove manufacturers or have been derived from similar substances by analogy.

Source: CHEMIKALIEN-MANAGER - KCL software for hand protection.

It has to be noticed, that daily time of use of chemical protective gloves may be quite shorter in practice because of many factors of influence (e.g. thermal and mechanical stress as well as special conditions on the floor) than the permeation time determined in accordance to EN 374.

**Safety Data Sheet**

according to UK REACH Regulation

ACMOS 37-9830

Revision date: 04.10.2021

Page 12 of 28

The respective permeation time doubles/halves at about 1,5 times larger/lower layer thickness.
Declared permeation times according to EN 374 are not carried out under practical conditions. Therefore a maximum wearing time up to 50 % of breakthrough time is recommended.
They relate to the pure solvent as mean component.

Barrier creams are not substitutes for body protection.

Skin protection

If required according to hazard assessment:

Suitable protective clothing:

Overall, Natural fibres (e.g. cotton) (EN 340)

For the protection against direct skin contact, body protective clothing is essential (in addition to the usual working clothes).

When handling with chemical substances, protective clothing with CE-labels including the four control digits must be worn.

DIN-/EN-Norms EN 468

Chemical protection clothing (Disposable suit antistatic)

type 6 limited splash-tight

type 5 particle-tight (method B)

type 4 spray-tight

Recommended protective clothing articles:

TYVEK CLASSIC PLUS (DU PONT)

Or comparable articles from other companies.

Chemical resistant safety shoes with conductible sole (EN ISO 20345)

Wash contaminated clothing prior to re-use.

Used working clothes should not be worn outside the work area.

Street clothing should be stored separately from work clothing.

Thermal hazards:

No thermal hazards during use of this product.

Respiratory protection

If required according to hazard assessment:

Respiratory protection necessary at:

aerosol or mist formation + exceeding exposure limit values +

high concentrations / prolonged exposure / insufficient ventilation / insufficient exhaust

Use only respiratory protection equipment with CE-symbol including four digit test number.

Filter types: A, B, E, K. Class 1: Maximum permitted contaminant concentration in inhaled air = 1000 mL/m³ (0.1 % by vol.); class 2: maximum permitted contaminant concentration in inhaled air = 5000 mL/m³ (0.5 % by vol.); class 3: maximum permitted contaminant concentration in inhaled air = 10000 mL/m³ (1.0 % by vol.)

The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, self-contained breathing apparatus must be used.

Observe the wear time limits according GefStoffV in combination with the rules for using respiratory protection apparatus (BGR 190).

The use of filter equipment requires a minimum oxygen content of 17 Vol-% in the surrounding atmosphere and that the maximum permitted gas concentration - normally 0,5 Vol-% - is not exceeded.

Suitable respiratory protection apparatus:

Half-face mask or quarter facepiece: maximum use concentration for substances with exposure limits: P1 filter: up to a max. of 4 times the exposure limit. P2 filter: up to a max. of 10 times the exposure limit. P3 filter: up to a max. of 30 times the expo.

Recommended respiratory protection articles:

Half mask or quarter mask with combination filter A1P1/A2P2 for gases, vapors and particles. (EN 140, EN 14387)

Filtering half mask or quarter mask with combination filter FFA1 P1/FFA2P2 for gases, vapors and particles. (EN 405)

Gas filtrating Half-face mask FFA (EN 405)

Model 4251 (FFA1P1 - 1000 ml/m³) / 4255 (FFA2P2SL - 5000 ml/m³) (3M)

Half-face mask or Quarter-face mask with gas filter (EN 140, EN 14387)

**Safety Data Sheet**

according to UK REACH Regulation

ACMOS 37-9830

Revision date: 04.10.2021

Page 13 of 28

Filter type 6051 (A1 - 1000 ml/m³) / 6055 (A2 - 5000 ml/m³) (3M)

Full-face mask with gas filter (EN 136, EN 14387)

Gas filter type: A, Indication colour: brown

Or comparable articles from other companies.

Environmental exposure controls

Environmental exposure controls:

Technical measures to prevent exposure:

Discharge exhaust air only with suitable separators to atmosphere.

Organisational measures to prevent exposure:

Should not be released into the environment.

Structural measures to prevent exposure:

Use the following recovery and/or abatement technique for cleaning waste gases:

Exhaust air scrubber

Adsorption

Further information see under section 6.2 - Environmental precautions.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state:	liquid	
Colour:	white	
Odour:	characteristic	
		Test method
Melting point/freezing point:	< 0 °C	literature value
Boiling point or initial boiling point and boiling range:	> 100 °C	literature value
Flammability		
Solid/liquid:	not applicable (Liquid)	
Gas:	not applicable (Liquid)	
Lower explosion limits:	not relevant	
Upper explosion limits:	not relevant	
Flash point:	not applicable	
Auto-ignition temperature:	not relevant	
Decomposition temperature:	not relevant	
pH-Value:	6	DIN 19268
Viscosity / kinematic: (at 40 °C)	43,7 mm ² /s	DIN 53015
Water solubility: (at 20 °C)	emulsifiable	
Solubility in other solvents miscible with most organic solvents (Alcohols, aldehydes, Ketone)		
Partition coefficient n-octanol/water:	not applicable (Mixtures)	
Vapour pressure: (at 20 °C)	Corresponds to the vapour pressure of water. < 23 hPa	literature value
Vapour pressure: (at 50 °C)	Corresponds to the vapour pressure of water. < 123 hPa	literature value
Density (at 20 °C):	1 g/cm ³	DIN 51757
Bulk density:	not applicable (Liquid)	
Relative vapour density:	not determined	

9.2. Other information**Information with regard to physical hazard classes**

Explosive properties

No flash point up to 100 °C.

Self-ignition temperature

Solid:

Not pyrophoric.

Gas:

Not pyrophoric.

**Safety Data Sheet**

according to UK REACH Regulation

ACMOS 37-9830

Revision date: 04.10.2021

Page 14 of 28

Oxidizing properties
not relevant

Other safety characteristics

Evaporation rate:	not determined
Solvent separation test:	not applicable
Solvent content:	not determined
Solid content:	not determined
Sublimation point:	not applicable
Softening point:	not applicable
Pour point:	not applicable
Viscosity / dynamic:	not determined
Flow time: (at 23 °C)	> 30 s 3 DIN EN ISO 2431

Further Information

Odour threshold: No data available

Surface tension: No data available

Fat solubility: No data available

Calculated oxidation potential of the mixture (OP): not relevant

Substance group relevant properties:

Data relevant with regard to physical hazard classes (supplemental):

Explosives

not applicable

Flammable gases

Non-flammable. / not applicable (Liquid)

Aerosols

Non-flammable. / not applicable (Liquid)

Oxidising gas

Not oxidising. / not applicable (Liquid)

Gases under pressure

not applicable (Liquid)

Flammable liquids

Non-flammable.

flammable solids

Non-flammable. / not applicable (Liquid)

Self-reactive substances and mixtures

not applicable

Pyrophoric liquids

Not pyrophoric.

Pyrophoric solids

Not pyrophoric. / not applicable (Liquid)

self-heating substances and mixtures

not applicable

Substances or mixtures which, in contact with water, emit flammable gases

not applicable

Oxidising liquids

Not oxidising.

Oxidising solids

Not oxidising. / not applicable (Liquid)

Organic peroxides

not applicable

Corrosive to metals.

Not corrosive to metals.

SECTION 10: Stability and reactivity**10.1. Reactivity**

The product is chemically stable under recommended conditions of storage, use and temperature.

**Safety Data Sheet**

according to UK REACH Regulation

ACMOS 37-9830

Revision date: 04.10.2021

Page 15 of 28

10.2. Chemical stability

The product is chemically stable under recommended conditions of storage, use and temperature.

10.3. Possibility of hazardous reactions

No hazardous reaction when handled and stored according to provisions.

10.4. Conditions to avoid

Further information see under section 7.2 - Conditions for safe storage, including any incompatibilities.

Further information see under section 10.5 - Incompatible materials.

10.5. Incompatible materials

Violent reaction with:

Hazardous substances that release flammable gases when in contact with water

Further information see under section 7.1 - Precautions for safe handling.

10.6. Hazardous decomposition products

Does not decompose when used for intended uses.

No known hazardous decomposition products.

Under fire conditions: See under section 5.2 - Special hazards arising from the substance or mixture.

SECTION 11: Toxicological information**11.1. Information on hazard classes as defined in GB CLP Regulation****Toxicokinetics, metabolism and distribution**

There are no data available on the preparation/mixture itself.

The product has not been tested.

Information on likely routes of exposure /

Symptoms related to the physical, chemical and toxicological characteristics:

See under section 4.2 - Most important symptoms and effects, both acute and delayed.

Exposure route:

In case of ingestion:

Ingestion causes nausea, weakness and central nervous system effects.

In case of skin contact:

May cause skin irritation in susceptible persons.

Prolonged or repeated skin contact may cause removal of natural fat from the skin resulting in dermatitis (skin inflammation).

In case of inhalation:

slightly irritant but not relevant for classification.

In case of eye contact:

irritant.

Conjunctival redness.

Delayed and immediate effects as well as chronic effects from short and long-term exposure:

Not relevant

Interactive effects:

Not relevant

Absence of specific data:

No data is available on the product itself. Description of possible hazardous to health effects is based on experience and/or toxicological characteristics of several components.

However, some data are not complete regarding particular main components. Nevertheless according to the experience of the manufacturer there are no other hazards expected than those which are already mentioned on the label.

Mixture versus substance information:

Not relevant

**Safety Data Sheet**

according to UK REACH Regulation

ACMOS 37-9830

Revision date: 04.10.2021

Page 16 of 28

Acute toxicity

Based on available data, the classification criteria are not met.

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
124-30-1	octadecylamine				
	oral	LD50 > 2000 mg/kg	Rat	ECHA	OECD 401
	dermal	LD50 > 2000 mg/kg	Rat	ECHA	OECD 402
	inhalation (1 h) dust/mist	LC50 > 0,099 mg/l	Rat	ECHA	OECD 403
90622-57-4	hydrocarbons, C11-C12, isoalkanes, <2% aromatics				
	oral	LD50 > 5000 mg/kg	Rat	Supplier / ECHA	OECD 401
	dermal	LD50 > 5000 mg/kg	Rabbit	Supplier / ECHA	OECD 402
	inhalation (4 h) dust/mist	LC50 > 5,6 mg/l	Rat	ECHA	OECD 403
1185-81-5	stannane, dibutylbis(dodecylthio)- (dibutyltin bis(lauryl mercaptide))				
	oral	LD50 > 2000 mg/kg	Rat	Supplier / ECHA	OECD 423
	dermal	LD50 1000 - 2000 mg/kg	Rabbit [female]	Supplier / ECHA	OECD 402
63843-89-0	bis(1,2,2,6,6-pentamethyl-4-piperidyl) [[3,5-bis(1,1-dimethylethyl)4-hydroxyphenyl]methyl]butylmalonate				
	oral	LD50 1490 mg/kg	Rat	Supplier / ECHA	OECD 401
	dermal	LD50 > 3170 mg/kg	Rat	Supplier / ECHA	OECD 402
	inhalation (4 h) dust/mist	LC50 > 0,46 mg/l	Rat	Supplier / ECHA	OECD 403
90640-32-7	amines, C16-18-alkyl				
	oral	LD50 > 5000 mg/kg	Rat	Supplier / ECHA	OECD 401
	dermal	LD50 > 2000 mg/kg	Rat	ECHA	OECD 402
55965-84-9	reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)				
	oral	LD50 64 - 66 mg/kg	Rat	ECHA / Supplier	OECD 401
	dermal	LD50 > 87 mg/kg	Rat	ECHA	OECD 402
	inhalation vapour	ATE 0,5 mg/l			
	inhalation (4 h) dust/mist	LC50 > 0,33 mg/l	Rat	ECHA	OECD 403

Irritation and corrosivity

Causes serious eye irritation.

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Sensitising effects

Contains stannane, dibutylbis(dodecylthio)- (dibutyltin bis(lauryl mercaptide)); reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1). May produce an allergic reaction.

Carcinogenic/mutagenic/toxic effects for reproduction

Based on available data, the classification criteria are not met.

STOT-single exposure

Based on available data, the classification criteria are not met.

STOT-repeated exposure

Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met.

11.2. Information on other hazards

**Safety Data Sheet**

according to UK REACH Regulation

ACMOS 37-9830

Revision date: 04.10.2021

Page 17 of 28

Endocrine disrupting properties

Endocrine disrupting potential (Health):

not relevant

SECTION 12: Ecological information**12.1. Toxicity**

Aquatic toxicity:

Acute (short-term) fish toxicity:

There are no data available on the preparation/mixture itself. The product has not been tested.

Acute (short-term) toxicity to crustacea:

There are no data available on the preparation/mixture itself. The product has not been tested.

Acute (short-term) toxicity to algae and cyanobacteria:

There are no data available on the preparation/mixture itself. The product has not been tested.

Chronic (long-term) toxicity to aquatic invertebrate:

There are no data available on the preparation/mixture itself. The product has not been tested.

Chronic (long-term) fish toxicity:

There are no data available on the preparation/mixture itself. The product has not been tested.

Toxicity to other aquatic plants/organisms:

No data available (Substances/Ingredient)

Terrestrial toxicity:

Acute and subchronic bird toxicity:

No data available (Substances/Ingredient)

Bird reproduction toxicity:

No data available (Substances/Ingredient)

Acute earthworm toxicity:

No data available (Substances/Ingredient)

Chronical earthworm toxicity (reproduction):

No data available (Substances/Ingredient)

Useful insect toxicity:

No data available (Substances/Ingredient)

Acute plant toxicity:

No data available (Substances/Ingredient)

Chronic plant toxicity:

No data available (Substances/Ingredient)

Toxicity to soil macroorganisms except of arthropods:

No data available (Substances/Ingredient)

Effects on soil microorganisms:

No data available (Substances/Ingredient)

Behaviour in waste water treatment plants:

No data available

Observe local regulations concerning effluent treatment.



Safety Data Sheet

according to UK REACH Regulation

ACMOS 37-9830

Revision date: 04.10.2021

Page 18 of 28

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
124-30-1	octadecylamine					
	Acute fish toxicity	LC50 > 0,01 - 0,1 mg/l	96 h	Pimephales promelas	Supplier	EPA OPPTS 850.1085
	Acute algae toxicity	ErC50 > 0,01 - 0,1 mg/l	72 h	Scenedesmus subspicatus	Supplier	OECD 201
	Acute crustacea toxicity	EC50 > 0,01 - 0,1 mg/l	48 h	Daphnia magna	Supplier	OECD 202
	Algae toxicity	NOEC 0,01 mg/l	3 d	Desmodesmus subspicatus	ECHA	OECD 201
	Crustacea toxicity	NOEC 0,001 mg/l	21 d	Daphnia magna	ECHA	OECD 211
	Acute bacteria toxicity	(EC50 14 mg/l)	3 h	Activated sludge	ECHA	OECD 209
90622-57-4	hydrocarbons, C11-C12, isoalkanes, <2% aromatics					
	Acute fish toxicity	LC50 > 1000 mg/l	96 h	Oncorhynchus mykiss	Supplier / ECHA	OECD 203
	Acute algae toxicity	ErC50 > 1000 mg/l	72 h	Pseudokirchneriella subcapitata	Supplier / ECHA	OECD 201
	Acute crustacea toxicity	EC50 > 1000 mg/l	48 h	Daphnia magna	Supplier / ECHA	OECD 202
	Fish toxicity	NOEC 0,209 mg/l	28 d	Oncorhynchus mykiss	ECHA	[growth rate]
	Algae toxicity	NOEC 1000 mg/l	3 d	Pseudokirchneriella subcapitata	Supplier / ECHA	OECD 201
	Crustacea toxicity	NOEC > 1 mg/l	21 d	Daphnia magna	Supplier / ECHA	OECD 211
	Acute bacteria toxicity	(EC50 > 1,5 mg/l)	0 h	Pseudomonas putida	ECHA	[5h]
1185-81-5	stannane, dibutylbis(dodecylthio)- (dibutyltin bis(lauryl mercaptide))					
	Acute algae toxicity	ErC50 > 1,6 mg/l	72 h	Desmodesmus subspicatus	ECHA	OECD 201
	Acute crustacea toxicity	EC50 0,11 mg/l	48 h	Daphnia magna	Supplier / ECHA	OECD 202
63843-89-0	bis(1,2,2,6,6-pentamethyl-4-piperidyl) [[3,5-bis(1,1-dimethylethyl)4-hydroxyphenyl]methyl]butylmalonate					
	Acute fish toxicity	LC50 > 100 mg/l	96 h	Danio rerio	Supplier / ECHA	OECD 203
	Acute algae toxicity	ErC50 61 mg/l	72 h	Desmodesmus subspicatus	Supplier / ECHA	[biomass]
	Acute crustacea toxicity	EC50 69 mg/l	48 h	Daphnia magna	Supplier	OECD 202 [24h]
	Algae toxicity	NOEC < 1,23 mg/l	3 d	Desmodesmus subspicatus	ECHA	87/302/EEC
	Crustacea toxicity	NOEC 0,002 mg/l	21 d	Daphnia magna	Supplier / ECHA	OECD 211
	Acute bacteria toxicity	(EC50 > 100 mg/l)	3 h	Activated sludge	Supplier / ECHA	OECD 209
90640-32-7	amines, C16-18-alkyl					
	Acute fish toxicity	LC50 (0,84) mg/l	96 h	Danio rerio	Supplier	OECD 203
	Acute algae toxicity	ErC50 (0,12) mg/l	72 h	Desmodesmus subspicatus	ECHA	OECD 201
	Acute crustacea toxicity	EC50 (0,32) mg/l	48 h	Daphnia magna	Supplier	OECD 202
	Algae toxicity	NOEC 0,01 mg/l	3 d	Desmodesmus subspicatus	ECHA	OECD 201
	Crustacea toxicity	NOEC 0,01 mg/l	21 d	Daphnia magna	Supplier	OECD 211
	Acute bacteria toxicity	(EC50 490,1 mg/l)	3 h	Activated sludge	ECHA	OECD 209
55965-84-9	reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)					
	Acute fish toxicity	LC50 0,19 mg/l	96 h	Oncorhynchus mykiss	ECHA	EPA OPP 72-1

**Safety Data Sheet**

according to UK REACH Regulation

ACMOS 37-9830

Revision date: 04.10.2021

Page 19 of 28

	Acute algae toxicity	ErC50	0,037 mg/l	72 h	Skeletonema costatum	ECHA	OECD 201
	Acute crustacea toxicity	EC50	0,16 mg/l	48 h	Daphnia magna	ECHA	EPA OPP 72-2
	Fish toxicity	NOEC mg/l	0,0464	35 d	Danio rerio	ECHA	OECD 210
	Algae toxicity	NOEC	0,004 mg/l	3 d	Skeletonema costatum	ECHA	OECD 201
	Crustacea toxicity	NOEC mg/l	0,0111	21 d	Daphnia magna	ECHA	OECD 211
	Acute bacteria toxicity	(EC50	4,5 mg/l)	3 h	Activated sludge	ECHA	OECD 209

12.2. Persistence and degradability

Abiotic degradation:

Physicochemical elimination:

Oxidation:

not applicable (Mixtures)

No data available (Substances/Ingredient)

Hydrolysis:

not applicable (Mixtures)

No data available (Substances/Ingredient)

Photochemical elimination:

Photolysis:

not applicable (Mixtures)

No data available (Substances/Ingredient)

Ozonolysis:

not applicable (Mixtures)

No data available (Substances/Ingredient)

Biodegradation:

not applicable (Mixtures)

CAS No	Chemical name			
	Method	Value	d	Source
	Evaluation			
124-30-1	octadecylamine			
	OECD 301 F	70 %	28	ECHA
	readily biodegradable			
90622-57-4	hydrocarbons, C11-C12, isoalkanes, <2% aromatics			
	OECD 301 F	31,3-41,7 %	28	Supplier / ECHA
	inherently biodegradable			
1185-81-5	stannane, dibutylbis(dodecylthio)- (dibutyltin bis(lauryl mercaptide))			
	OECD 301 F	0 %	28	ECHA
	under test conditions no biodegradation observed			
63843-89-0	bis(1,2,2,6,6-pentamethyl-4-piperidyl) [[3,5-bis(1,1-dimethylethyl)4-hydroxyphenyl]methyl]butylmalonate			
	OECD 301 B	1 %	28	Supplier / ECHA
	not readily biodegradable			
90640-32-7	amines, C16-18-alkyl			
	OECD 301 D	75 %	28	ECHA
	readily biodegradable			
55965-84-9	reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)			
	OECD 301 B (CO2 Evolution Test)	> 38%	29	ECHA
	readily biodegradable, but failing 10-day window			
	OECD 303 A (Activated sludge Units)	> 80%		Supplier
	readily biodegradable			
	OECD 302 B (Zahn-Wellns Test)	100%		Supplier
	readily biodegradable			

**Safety Data Sheet**

according to UK REACH Regulation

ACMOS 37-9830

Revision date: 04.10.2021

Page 20 of 28

12.3. Bioaccumulative potential

not applicable (Mixtures)

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
124-30-1	octadecylamine	8,35
1185-81-5	stannane, dibutylbis(dodecylthio)- (dibutyltin bis(lauryl mercaptide))	3,11
63843-89-0	bis(1,2,2,6,6-pentamethyl-4-piperidyl) [[3,5-bis(1,1-dimethylethyl)4-hydroxyphenyl]methyl]butylmalonate	10,03
90640-32-7	amines, C16-18-alkyl	4,33
55965-84-9	reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)	0,401

BCF

CAS No	Chemical name	BCF	Species	Source
124-30-1	octadecylamine	> 500		Supplier
63843-89-0	bis(1,2,2,6,6-pentamethyl-4-piperidyl) [[3,5-bis(1,1-dimethylethyl)4-hydroxyphenyl]methyl]butylmalonate	49,3-437,1	Cyprinus carpio	Supplier / ECHA
90640-32-7	amines, C16-18-alkyl	173		ECHA
55965-84-9	reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)	54	Lepomis macrochirus	ECHA

12.4. Mobility in soil

Surface tension:

See under section 9.1 - Information on basic physical and chemical properties.

Distribution:

Water-air (volatility rate, Henry-constant):

not applicable (Mixtures)

No data available (Substances/Ingredient)

Soil-Water (Adsorption coefficient):

not applicable (Mixtures)

No data available (Substances/Ingredient)

Soil-Air (volatility rate):

not applicable (Mixtures)

No data available (Substances/Ingredient)

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to UK REACH.

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

Endocrine disrupting potential (Environment):

not relevant

12.7. Other adverse effects

Ozone depletion potential (ODP):

No data available (Substances/Ingredient)

Photochemical ozone creation potential (POCP):

No data available (Substances/Ingredient)

Global warming potential (GWP):

No data available (Substances/Ingredient)

Endocrine disrupting potential

No data available

AOX: The product contains organic halogens.

SECTION 13: Disposal considerations

**Safety Data Sheet**

according to UK REACH Regulation

ACMOS 37-9830

Revision date: 04.10.2021

Page 21 of 28

13.1. Waste treatment methods**Disposal recommendations**

Waste treatment options:

Transfer to an emulsion fission reactor or an emulsion evaporation system, observing official regulations.

Dispose of waste according to applicable legislation.

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

Properties of waste which render it hazardous:

Irritant — skin irritation and eye damage

Ecotoxic

Evidence for disposal must be provided.

Consult the appropriate local waste disposal expert about waste disposal.

Waste for recycling is to be classified and labelled.

For recycling, contact recycling exchanges.

May not be disposed or deposited together with domestic garbage.

Do not mix with other wastes.

Do not flush into surface water or sanitary sewer system.

Do not dispose of waste into sewer.

Before discharge in public drains (e.g. residues of washing- and rinsing liquids) please observe the relevant regulations. In case of further questions please contact your waste- or environmental representative or the responsible authority.

Clean IBCs or drums at approved facility only.

The waste producer is responsible for correct coding and designation of his wastes.

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

List of proposed waste codes/waste designations in accordance with EWC:

List of Wastes Code - residues/unused products

070201 WASTES FROM ORGANIC CHEMICAL PROCESSES; wastes from the MFSU of plastics, synthetic rubber and man-made fibres; aqueous washing liquids and mother liquors; hazardous waste

List of Wastes Code - used product

070201 WASTES FROM ORGANIC CHEMICAL PROCESSES; wastes from the MFSU of plastics, synthetic rubber and man-made fibres; aqueous washing liquids and mother liquors; hazardous waste

List of Wastes Code - contaminated packaging

150110 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); packaging containing residues of or contaminated by hazardous substances; hazardous waste

Contaminated packaging

Other disposal recommendations:

Contaminated packages must be completely emptied and can be re-used following proper cleaning.

Cleaning by recycling company.

Recommended cleansing agent:

Clean with detergents. Avoid solvent cleaners.

Handle contaminated packages in the same way as the substance itself.

Non-contaminated packages may be recycled.

Packing which cannot be properly cleaned must be disposed of.

As well uncleaned (empty) containers remain contaminated by product residues and may be hazardous by vapours.

They have to be disposed by specialists or have to be supplied to a licensed reconditioning.

The conditions of the regional reconditioning companies have to be observed.

SECTION 14: Transport information

Safety Data Sheet

according to UK REACH Regulation

ACMOS 37-9830

Revision date: 04.10.2021

Page 22 of 28

Land transport (ADR/RID)

14.1. UN number or ID number: UN3082
14.2. UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Alkyl amines)
14.3. Transport hazard class(es): 9
14.4. Packing group: III
 Hazard label: 9



Classification code: M6
 Special Provisions: 274 335 375 601
 Limited quantity: 5 L
 Excepted quantity: E1
 Transport category: 3
 Hazard No: 90
 Tunnel restriction code: -

Other applicable information (land transport)

Provision(s), multilateral agreement(s): Not applicable

Maximum permissible total quantity per unit of carriage according to subsection 1.1.3.6 ADR/RID: 1000 L.

Factor out of category of carriage (= 3) to calculate the quantity per unit of carriage: 1.

Inland waterways transport (ADN)

Other applicable information (inland waterways transport)

Not classified for this transport carrier.

Marine transport (IMDG)

14.1. UN number or ID number: UN3082
14.2. UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Alkyl amines)
14.3. Transport hazard class(es): 9
14.4. Packing group: III
 Hazard label: 9



Marine pollutant: P
 Special Provisions: 274, 335, 969
 Limited quantity: 5 L
 Excepted quantity: E1
 EmS: F-A, S-F
 Segregation group: IMDG-Code segregation group not applicable

Other applicable information (marine transport)

Exception(s): Not applicable

Safety Data Sheet

according to UK REACH Regulation

ACMOS 37-9830

Revision date: 04.10.2021

Page 23 of 28

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number: UN3082
14.2. UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Alkyl amines)
14.3. Transport hazard class(es): 9
14.4. Packing group: III
 Hazard label: 9



Special Provisions: A97 A158 A197
 Limited quantity Passenger: 30 kg G
 Passenger LQ: Y964
 Excepted quantity: E1
 IATA-packing instructions - Passenger: 964
 IATA-max. quantity - Passenger: 450 L
 IATA-packing instructions - Cargo: 964
 IATA-max. quantity - Cargo: 450 L

Other applicable information (air transport)

ERG Kodex: 9L

The state variations in chapter 2.8.1 and the operator variations in chapter 2.8.3 for shipping of dangerous goods in limited quantities according to chapter 2.7 of the valid ICAO/IATA Dangerous Goods Regulations have to be observed.

The rulings for dangerous goods by air mail according to chapter 2.4 of the valid ICAO/IATA Dangerous Goods Regulations and the conventions of the Universal Postal Union (UPU) as well as the clauses of the relevant National Postal Administration have to be observed. Airmail: prohibited.

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: Yes



Danger releasing substance: Alkyl amines

14.6. Special precautions for user

Further information see under section 6, 7, 8.

14.7. Maritime transport in bulk according to IMO instruments

No bulk transport in accordance with IBC code.
 It is sold exclusively in traffic legally authorized and appropriate packaging.

Other applicable information

Postal, express and courier services:
 Postal service (national):
 Refer to your National Postal Administration.
 Express freight / special delivery:
 Refer to your National Postal Administration.
 Courier service (national):
 The general conditions of business of the particular courier service have to be observed.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU regulatory information

Restrictions on use (REACH, annex XVII):
 Entry 3, Entry 20, Entry 75
 2010/75/EU (VOC): 3 % (32 g/l)

Additional information

Authorisations and/or restrictions on use:
 Authorisations:
 Authorisation of Chemicals (REACH) as regards Annex XIV:
 not relevant

**Safety Data Sheet**

according to UK REACH Regulation

ACMOS 37-9830

Revision date: 04.10.2021

Page 24 of 28

Restrictions on use:

Restriction of chemicals (REACH) as regards annex XVII:

No. 20 - organo-tin compounds

Informations on Regulation (EC) No. 1272/2008 - Annex VI, Part 1:

Note P is valid: The harmonised classification as a carcinogen or mutagen applies unless it can be shown that the substance contains less than 0,1 % w/w benzene (Einecs No 200-753-7), in which case a classification in accordance with Title II of this Regulation shall be performed also for those hazard classes. Where the substance is not classified as a carcinogen or mutagen, at least the precautionary statements (P102-)P260-P262-P301 + P310-P331 shall apply.

Other regulations (EU):

Regulation (EC) No. 1005/2009 - Substances that deplete the ozone layer:

not relevant

Regulation (EC) No. 648/2004 and No 907/2006 - Detergents:

not relevant

Regulation (EC) No. 649/2012 - Export and import of dangerous chemicals:

not relevant

Regulation (EU) 2019/1021 - Persistent organic pollutants:

not relevant

Regulation (EC) No. 428/2009 and No. 388/2012 and No. 1382/2014 - Control of exports, or transfer, brokering and transit of dual-use goods (Dual-Use Regulation):

not relevant

Regulation (EC) No. 273/2004 - Drug precursors:

not relevant

Regulation (EC) No. 111/2005 - Definition of rules for the monitoring of trade in drug precursors between the Union and third countries:

not relevant

Directive 2012/18/EC - Control of major accident hazards involving dangerous substances (Seveso III):

ANNEX I, PART 1 (Categories of dangerous substances):

E2 (ENVIRONMENTAL HAZARDS) - Hazardous to the Aquatic Environment in Category Chronic 2 (Column 1)

Quantities: > 200.000 kg (Column 2) / > 500.000 kg (Column 3)

Directive 2004/42/EC - Use of organic solvents in certain paints and lacquers:

not relevant

Directive 2010/75/EU - Industrial Emissions Directive (Directive IE) - succession to Directive 1999/13/EC - Limitation of emissions of volatile organic compounds (VOC-Directive):

When using this substance / mixture it has to be checked whether the activities are subject to the requirements of IE-RL, Chapter V (installations and activities with the use of organic solvents - VOC).

Aerosol Directive (75/324/):

not relevant

Biocide directive (98/8/EC):

not relevant

Regulation (EU) No. 528/2012 on biocides:

In accordance with Regulation (EU) No. 528/2012 on biocides

This product is a with biocidal products treated article.

Observe in addition any national regulations!

EC-Chemical inventories: All ingredients are listed in EINECS / ELINCS or excepted from listing.

National regulatory information

Employment restrictions:

Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

Additional information

**Safety Data Sheet**

according to UK REACH Regulation

ACMOS 37-9830

Revision date: 04.10.2021

Page 25 of 28

Other regulations, restrictions and prohibition regulations:

European product inventories (Registration status on mixtures):

Kemikalieinspektionen / Produktregistret / Swedish Chemicals Inspectorate - Keml (<http://www.kemi.se>):

This product was not registered.

Schweizerische Eidgenossenschaft - Bundesamt für Gesundheit - BAG (<http://www.bag.admin.ch>) / Anmeldestelle

Chemikalien (<http://www.cheminfo.ch>) / Informationssystem für gefährliche und umweltrelevante Stoffe - IGS

(<http://igs.naz.ch/index.html>):

This product was not registered.

International chemical inventories (Registration status on substances): No data available

A downstream user chemical safety assessment according to REACH (article 37.4) was performed for the following substance(s):

amines, C16-18-alkyl, EC-No.: 292-550-5

octadecylamine, EC-No.: 204-695-3

Links to the annexed exposure scenarios (ES) according to REACH (article 31.7):

Short title: Manufacture of plastics products, including compounding and conversation (industrial application).

PFA-DU-ES2

ODA-DU-ES2

Short title: Manufacture of plastics products, including compounding and conversation (professional application).

PFA-DU-ES4

ODA-DU-ES4

15.2. Chemical safety assessment

For the following substances of this mixture a chemical safety assessment has been carried out:

octadecylamine

hydrocarbons, C11-C12, isoalkanes, <2% aromatics

bis(1,2,2,6,6-pentamethyl-4-piperidyl) [[3,5-bis(1,1-dimethylethyl)-4-hydroxyphenyl]methyl]butylmalonate

amines, C16-18-alkyl

SECTION 16: Other information**Changes**

This version replaces all former issues.

Changes made in this revision see section: 3, 11, 12, 15, 16.

Abbreviations and acronyms

ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.

ATE: Acute Toxicity Estimate.

CAS: Chemical Abstracts Service.

CEN: Comité Européen de Normalisation (European Committee for Standardisation).

CLP: Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008.

CSA: Chemical Safety Assessment.

CSR: Chemical Safety Report.

C&L: Classification & Labeling.

DNEL: Derived No-Effect Level.

EAK: European Waste Catalogue (replaced by LoW – see below).

EC50: Effective concentration, 50 percent.

ECHA: European Chemicals Agency.

EC: European community.

**Safety Data Sheet**

according to UK REACH Regulation

ACMOS 37-9830

Revision date: 04.10.2021

Page 26 of 28

EINECS: European Inventory of Existing Commercial Chemical Substances.
ELINCS: European List of Notified Chemical Substances.
EN: European standard.
EWC: European Economic Community.
EEA: European Economic Area (EU + Iceland, Liechtenstein and Norway).
EU: European Union.
GHS: Globally Harmonized System of Classification and Labelling of Chemicals.
HSPA: Hydrocarbon Solvents Producers Association.
IATA-DGR: International Air Transport Association Dangerous Goods Regulations.
IBC-Code: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk (International Bulk Chemical Code).
IC50 / ErC50: Inhibitory concentration, 50 percent.
ICAO-TI: International Civil Aviation Organization Technical Instruction.
IMDG: International Maritime Dangerous Goods.
ISO: A standard of International Standards Organisation.
IUPAC: International Union for Pure and Applied Chemistry.
LC50: Lethal concentration, 50 percent.
LD50: Lethal Dose, 50 percent.
log Kow (Pow): octanol-water partition coefficient.
LoW: List of Wastes (see <http://ec.europa.eu/environment/waste/framework/list.htm>).
LQ: Limited Quantities.
MARPOL: Maritime Pollution Convention (Convention for the Prevention of Pollution from Ships).
OC: Operational Conditions.
OECD: Organisation for Economic Co-operation and Development.
OSHA: Occupational Safety and Health Agency.
PBT: Persistent, bioaccumulabe and toxic.
PEC: Predicted Effect Concentration.
PNEC: Predicted No-Effect Concentration.
PPE: Personal Protection Equipment.
(Q)SAR: Quantitative-Structure-Activity-Relationship.
REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals; Regulation (EC) No 1907/2006.
RID: Regulations concerning the International Carriage of Dangerous Goods by Rail.
RMM: Risk Management Measure.
SVHC: Substances of Very High Concern.
STOT - RE: Specific Target Organ Toxicity - Repeated Exposure.
STOT - SE: Specific Target Organ Toxicity - Single Exposure.
UN: United Nations.
UVCB: Substances of Unknown or Variable composition, Complex reaction products or Biological materials.
vPvB: Very persistent and very bioaccumulable.
WoE: Weight of Evidence.

For abbreviations and acronyms, see table at <http://abbrev.esdscom.eu>**Classification for mixtures and used evaluation method according to GB CLP Regulation**

Classification	Classification procedure
Eye Irrit. 2; H319	Calculation method
Aquatic Chronic 2; H411	Calculation method

Relevant H and EUH statements (number and full text)

H301	Toxic if swallowed.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H310	Fatal in contact with skin.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.

**Safety Data Sheet**

according to UK REACH Regulation

ACMOS 37-9830

Revision date: 04.10.2021

Page 27 of 28

H330	Fatal if inhaled.
H341	Suspected of causing genetic defects.
H360FD	May damage fertility. May damage the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.
EUH066	Repeated exposure may cause skin dryness or cracking.
EUH071	Corrosive to the respiratory tract.
EUH208	Contains stannane, dibutylbis(dodecylthio)- (dibutyltin bis(lauryl mercaptide)); reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1). May produce an allergic reaction.

Further Information

Full text of all R-, H-, EUH-phrases which are referred to in section 2 and 3 of this safety data sheet - see previous list.
These (this) R-, H-, EUH-phrases/R-, H-, EUH-phrase apply/applies to the substance(s) of content, however, it does not necessarily show the classification of the product.

Key literature references and sources for data:

The classification corresponds to current EC-lists, but is completed by statements of technical literature and company data.

Other public accessible sources:

Regulation (EC) No. 1907/2006 (REACH) in the valid version in each case

Regulation (EC) No. 1272/2008 (CLP) in the valid version in each case

Further information and practical guides on the internet:

European Chemicals Agency - ECHA (<http://echa.europa.eu>)

ECHA - Information on Chemicals (<http://echa.europa.eu/information-on-chemicals>)

ECHA - Candidate List of Substances of Very High Concern for Authorisation

(<http://echa.europa.eu/de/candidate-list-table>)

ECHA - List of restrictions table

(<http://echa.europa.eu/de/addressing-chemicals-of-concern/restrictions/list-of-restrictions/list-of-restrictions-table>)

ECHA - Authorisation List

(<http://echa.europa.eu/hr/addressing-chemicals-of-concern/authorisation/recommendation-for-inclusion-in-the-authorisation-list/authorisation-list>)

ECHA - C&L Inventory (<http://echa.europa.eu/en/web/guest/regulations/clp/cl-inventory>)

eChemPortal (<http://www.echemportal.org>)

The access to European Union law - EUR-Lex (<http://eur-lex.europa.eu>)

Health and Safety Executive (<http://www.hse.gov.uk>) / Control of Substances Hazardous to Health Regulations - COSHH

(<http://www.coshh-essentials.org.uk/Home.asp>)

Pollution Prevention and Control Act and Pollution Prevention and Control Regulations

Recommended restriction of application:

See under section 1.2 - Uses advised against.

Use this product only for intended purpose in accordance with our product informations.

Please refer to our internet website for more information (<http://www.acmos.com>).

Training advice:

Yearly briefing and instruction of employees by means of operating instructions according to article 8 of EC-directive 98/24/EC.

Inquiry office: Laboratory (Division: Occupational- /Product security)

Contact person: Mr. Dryhaus (Telephone: +49-421-5189-0, Telefax: +49-421-5189-871)

Office hours: Mo - Th from 7.30 - 16.15 h and Fr from 7.30 - 13.30 h. Out of office hours no call diversion.

Disclaimer:

**Safety Data Sheet**

according to UK REACH Regulation

ACMOS 37-9830

Revision date: 04.10.2021

Page 28 of 28

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights. The information contained herein are, to our knowledge at the time of their creation to be correct and been taken from sources deemed to be reliable. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release. The receiver of our product is singularly responsible for adhering to existing laws and regulations. All descriptions are approximate values, they are not specified for construction of specifications. This safety data sheet does not represent any operating instruction according to national chemical regulations. It may be used for creation, but must not replace it. The employer is not relieved from his duties. All technical information to occupational protection are directed predominately to experts first (safety engineers, occupational medicines).

Identified uses

No	Short title	LCS	SU	PC	PROC	ERC	AC	TF	Specification
1	Manufacture of plastics products, including compounding and conversion (industrial application)	IS	12	24	7, 9, 10	4	-	-	PFA-DU-ES2
2	Manufacture of plastics products, including compounding and conversion (professional application)	PW	-	-	9, 10, 11	4	-	-	PFA-DU-ES4
3	Manufacture of plastics products, including compounding and conversion (industrial application)	IS	12	24	7, 9, 10	4	-	-	ODA-DU-ES2
4	Manufacture of plastics products, including compounding and conversion (professional application)	PW	-	-	9, 10, 11	4	-	-	ODA-DU-ES4

LCS: Life cycle stages

PC: Product categories

ERC: Environmental release categories

TF: Technical functions

SU: Sectors of use

PROC: Process categories

AC: Article categories

APPENDIX II
EMISSIONS MONITORING SURVEY REPORT
(P6221 - R001, DECEMBER 2025)



2499

EMISSIONS MONITORING SURVEY

Prepared for:

Adler Pelzer Group
CAB Automotive Limited
Vaughan Trading Estate
Sedgley Road East
Tipton
West Midlands
Dy4 7UJ

Permit Number	: PPC 92935
Variation Number	: V1
Installation	: Spraybooths SB1, SB2 & SB7
Visit Details	: Compliance – November 2025
Job Number	: P6221
Report Number	: R001
Report Issue Date	: 18 th December 2025
Survey Dates	: 20 th November 2025

Prepared by:

Environmental Compliance Limited

Unit G1
Main Avenue
Treforest Industrial Estate
Pontypridd
CF37 5BF.
Tel: 01443 801215

Report Issue:		FINAL	
Report Prepared by:		Report Reviewed & Approved by MCERTS Level Two Technical Endorsements TE1, TE2, TE3 & TE4	
Name:	Scott Hackett	Name:	Andy Barnes
		MCERTS No:	MM 03 235
		Signature:	
Date:	17 th December 2025	Date:	18 th December 2025

This report is not to be used for contractual or engineering purposes unless this approval sheet is signed where indicated by the approver and the report is designated "FINAL".

Environmental Compliance Limited

Adler Pelzer Group		Installation Name	: Spraybooths SB1, SB2 & SB7
Permit No	: PPC 92935	Visit Details	: Compliance – November 2025
Variation No	: V1	Survey Dates	: 20th November 2025
Report Ref	: P6221	Report Issue Date	: 18th December 2025
	: R001		

This report has been prepared by Environmental Compliance Limited (ECL) in their professional capacity as Environmental Consultants. The contents of the report reflect the conditions that prevailed and the information available or supplied at the time of its preparation. The report, and the information contained therein, is provided by ECL solely for use and reliance by the Client in performance of ECL's duties and liabilities under its contract with the Client. Until ECL has received payment in full as detailed in the quotation or contract the contents of this report remain the legal property of ECL. The contents of the report do not, in any way, purport to include any manner of legal advice or opinion.

Any operating information and CEMS data used in this report has been supplied by the client.

This report should not be reproduced, (except in full) without the written approval of the laboratory.

Should the Client wish to release this report to a Third Party for the party's reliance, Environmental Compliance Ltd may, at its discretion, agree to such release provided that:

- Environmental Compliance Ltd gives written agreement prior to such release and ECL has received payment in full for all works/services undertaken;
- By release of the report to the Third Party, that Third Party does not acquire any rights, contractual or otherwise, whatsoever against Environmental Compliance Ltd and, accordingly, Environmental Compliance Ltd assume no duties, liabilities or obligations to that Third Party;
- Environmental Compliance Ltd accepts no responsibility for any loss or damage incurred by the Client or for any conflict of Environmental Compliance Ltd interests arising out of the Clients' release of this report to the Third Party.

In the event that a report is revised and re-issued, the client shall ensure that any earlier versions of the report, and any copies thereof, are void and such copies should be marked with the words "superseded and revised".

Opinions and Interpretation expressed within this report are outside the scope of the UKAS accreditation.

MCERTS requirements mean that comparison of results with emissions limit values is not permitted within this report.

Adler Pelzer Group

Permit No : PPC 92935

Variation No : V1

Report Ref : P6221 : R001

Installation Name

Visit Details

Survey Dates

Report Issue Date

: Spraybooths SB1, SB2 & SB7

: Compliance – November 2025

: 20th November 2025

: 18th December 2025

TABLE OF CONTENTS

Section	Description	Page Number
PART 1	EXECUTIVE SUMMARY	4
1	MONITORING OBJECTIVES	4
1.1	Monitoring Results	5
1.2	Operating Information	6
2	MONITORING DEVIATIONS	7
PART 2	SUPPORTING INFORMATION	8
3	SAMPLING STAFF DETAILS	8
4	SAMPLING PROTOCOLS / METHODOLOGIES	9
5	SAMPLE POINT DESCRIPTIONS	10
	EQUIPMENT IDs	11
	TABLES	13
	VELOCITY TRAVERSE PROFILES	17
	FIELD SAMPLING DATA	23
	LABORATORY ANALYSIS RESULTS	26
	UNCERTAINTY CALCULATIONS	28

Adler Pelzer Group
Permit No : PPC 92935
Variation No : V1
Report Ref : P6221 : R001

Installation Name : Spraybooths SB1, SB2 & SB7
Visit Details : Compliance – November 2025
Survey Dates : 20th November 2025
Report Issue Date : 18th December 2025

PART 1 - EXECUTIVE SUMMARY

1 Monitoring Objectives

Environmental Compliance Ltd (ECL) was commissioned by **Adler Pelzer Group** to undertake an emission monitoring survey at their **Tipton site**. This report presents the findings of the study.

The monitoring at this installation was carried out in accordance with our quotation reference **AM/P6221/Q001**, for compliance check monitoring of emissions to air. The substances requested for monitoring at each emissions point are listed below:

Substances to be monitored	Emission Point Identification		
	SB1	SB2	SB7
Velocity / Flowrate	● U	● U	● U
Particulates	● U	● U	● U

- Denotes the substances to be monitored.
- U Denotes UKAS accreditation is held for monitoring that substance, but does not mean that it has been claimed which will depend on whether the testing could be completed in accordance with the Standard Reference Method.

Special Requirements: “During Normal Operation.”

Environmental Compliance Limited

Adler Pelzer Group
Permit No : PPC 92935
Variation No : V1
Report Ref : P6221 : R001

Installation Name : Spraybooths SB1, SB2 & SB7
Visit Details : Compliance – November 2025
Survey Dates : 20th November 2025
Report Issue Date : 18th December 2025

1.1 Monitoring Results

Emission Point Reference	Substance to be Monitored	Emission Limit Value	Periodic Monitoring Result	Units	Mass Emission NOTE UNITS	Expanded Uncertainty (as % of)			Reference Conditions 273 K, 101.3 kPa	Date of Sampling	Start and End Times	Monitoring Method Reference	Accreditation Claimed for Test Result	Tick if non-conforming test (see Section 2)	Operating Status
						ELV	Span Value	Measured Value							
SB 1	Volumetric Flowrate	...	2.84756	m³/sec	...	...	...	5	Stack Conditions	20/11/2025	10:20 – 10:36	BS EN 16911-1:2013 & MID	UKAS / MCERTS		Normal
	Volumetric Flowrate	...	2.71103	m³/sec	...	...	...	6	& Wet Gas	20/11/2025	10:20 – 10:36	BS EN 16911-1:2013 & MID	UKAS / MCERTS		
	Particulates §	50	1.21	mg/m³	11.67 (g/hr)	1	...	30	& Wet Gas	20/11/2025	10:47 – 11:48	BS EN 13284-1:2017 & MID	UKAS / MCERTS		
SB 2	Volumetric Flowrate	...	2.13821	m³/sec	...	...	...	7	Stack Conditions	20/11/2025	14:03 – 14:23	BS EN 16911-1:2013 & MID	UKAS / MCERTS	✓	Normal
	Volumetric Flowrate	...	2.02109	m³/sec	...	...	...	8	& Wet Gas	20/11/2025	14:03 – 14:23	BS EN 16911-1:2013 & MID	UKAS / MCERTS	✓	
	Particulates §	50	0.64	mg/m³	4.70 (g/hr)	1	...	94	& Wet Gas	20/11/2025	14:27 – 15:27	BS EN 13284-1:2017 & MID	UKAS / MCERTS	✓	
SB 7	Volumetric Flowrate	...	3.46043	m³/sec	...	...	...	5	Stack Conditions	20/11/2025	12:20 – 12:40	BS EN 16911-1:2013 & MID	UKAS / MCERTS	✓	Normal
	Volumetric Flowrate	...	3.27121	m³/sec	...	...	...	6	& Wet Gas	20/11/2025	12:20 – 12:40	BS EN 16911-1:2013 & MID	UKAS / MCERTS	✓	
	Particulates §	50	0.39	mg/m³	4.58 (g/hr)	1	...	94	& Wet Gas	20/11/2025	12:50 – 13:50	BS EN 13284-1:2017 & MID	UKAS / MCERTS	✓	

Notes

The volumetric flowrate shown above is that from the initial pitot traverse.

Any other flow measurements made during isokinetic sampling and/ or repeat traverses are shown later in the tables section.

Emission Limit Value
Periodic Monitoring Result
Uncertainty
Reference Conditions
Monitoring Method Reference
Accreditation for use of Method
Operating Status

§
NU
NA

The emission limit value is that stated in the permit and will be expressed as a concentration or a mass emission.
The result given is expressed in the same terms and units as the emission limit value.
The uncertainty associated with the quoted result is at the 95% confidence interval. The Uncertainty results **DO NOT** take into account the effect of the sample location limitations.
All results are expressed at 273 K and 101.3kPa. The oxygen and moisture corrections are stated.
The method stated is in accordance with the Environment Agency Technical Guidance Note M2, or other method approved by the Environment Agency.
The details indicate the accreditation for the use of the complete monitoring method, e.g. MCERTs, UKAS. If use of the method is not accredited " NA" is stated.
The details indicate the feedstock and the loading rate of the plant during monitoring.
Chemical Analysis on sample reagents was performed by an External Laboratory as detailed in Section 4
UKAS Accreditation Held but UKAS Accreditation cannot be claimed for the test as sampling did not comply with the Standard Reference Method (SRM), see section 2 & 5
Method is NOT UKAS Accredited.

Environmental Compliance Limited

Adler Pelzer Group

Permit No : PPC 92935
Variation No : V1
Report Ref : P6221 : R001

Installation Name

: Spraybooths SB1, SB2 & SB7
Visit Details : Compliance – November 2025
Survey Dates : 20th November 2025
Report Issue Date : 18th December 2025

1.2 Operating Information

Any operating information and CEMS data below has been supplied by the client.

Emission Point Reference	Process Type	Process Duration	Fuel	Feedstock	Abatement	Load	Comparison of Operator CEMS and Periodic Monitoring Results					
							Parameter	Date	Time	CEMS Results	Periodic Monitoring Results	Units
All	Batch	As Required	N/A	N/A	Dry Filter	Normal	...	...	...	NP	...	...

Notes:

Process Type

State whether the process is a continuous or batch process.

Process Duration

If a batch process, state the duration, frequency and details of the portion of the batch sampled. If continuous state "NA"

Fuel

If applicable, state the fuel type If not applicable state "NA"

Feedstock

State the feedstock type

Abatement

State the type and whether operational during monitoring. If not applicable state "NA"

Load

State the normal load, throughput or rating of the plant

CEMS Data

Enter this data for each CEM installed if it has been provided by operator otherwise state "NP" (NOT PROVIDED)

2 Monitoring Deviations

The objective of the survey was to measure the concentrations of pollutants from the processes / locations as detailed in Section 1. This survey meets the requirements of the site's **PPC Permit Number: PPC 92935** where UKAS and MCERTS accreditation has and could be claimed for the testing in the monitoring results table.

There were no modifications to the sampling procedures (TPDs) listed in section 4.

There were no substance deviations from the original and agreed emissions monitoring schedule.

Non-conforming tests are as follows.

The Uncertainty of the reported concentrations for these pollutant results DOES NOT take into account the effect of non-conformities or sample location limitations.

For SB2 & SB7, Flowrate and particulate tests are non-conforming, as there is only one sampling port available in each case, rather than two as required by the sampling standards. In order to maintain the UKAS/MCERTS accreditation status of the tests, extra sample points were used on the one available sample line.

Homogeneity tests have not been completed for pollutants at any of the sampling locations. Such tests are not applicable to these locations (as the duct area is <1m²) and were not requested by the client.

Adler Pelzer Group
 Permit No : PPC 92935
 Variation No : V1
 Report Ref : P6221 : R001

Installation Name : Spraybooths SB1, SB2 & SB7
 Visit Details : Compliance – November 2025
 Survey Dates : 20th November 2025
 Report Issue Date : 18th December 2025

PART 2 – SUPPORTING INFORMATION

3 SAMPLING STAFF DETAILS

Site Sampling Team

Names of Site Team	Dates on Site	MCERTS No.	LEVEL	Technical Endorsements
Lee Harper	20 th November 2025	MM 17 1423	2	TE1, TE2, TE4
Jesse Whitehouse		MM 22 1697	1	...

Report Reviewer

Name	MCERTS No.	LEVEL	Technical Endorsements
Andy Barnes	MM 03 235	2	TE1, TE2, TE3, TE4

Technical Endorsement Key:-

TE1 – Isokinetic Particulates, Temperature & Velocity Profiles, Oxygen.

TE2 – Isokinetic Extractive Pollutants:- Metals, Dioxin & Furans, PAHs, PCBs, HCl, HF.

TE3 – Non-Isokinetic Extractive Pollutants:- Speciated VOCs, HF, HCl, Cyanide.

TE4 – Continuous Analysers (Combustion Gases):- TVOC, CO, NOx, SO₂.

Adler Pelzer Group
Permit No : PPC 92935
Variation No : V1
Report Ref : P6221 : R001

Installation Name : Spraybooths SB1, SB2 & SB7
Visit Details : Compliance – November 2025
Survey Dates : 20th November 2025
Report Issue Date : 18th December 2025

4

SAMPLING PROTOCOLS / METHODOLOGIES

Details of the substances monitored, the standard methods used and the Environmental Compliance Limited Technical Procedures used during this survey are shown in the table below. Detailed sampling protocols are included in a separate document which will be sent with the report.

In all cases, where analysis of collected samples was required, the analysis was by a subcontract laboratory. Details of the sub-contract laboratory are shown on the analysis certificates in this report. The UKAS/MCERTs accreditation status of the analysis is also indicated on the certificates.

Any required modifications to the Technical Procedure Documents (TPDs) specified below will be detailed in section 2 of this report.

Determinand	External Reference Method	ECL Technical Procedure Number
Velocity and Flowrate	BS EN 16911-1:2013 & MID	ECL/ TPD/ 022A
Particulates (MST)	BS EN 13284-1:2017 & MID	ECL / TPD / 027

Adler Pelzer Group
Permit No : PPC 92935
Variation No : V1
Report Ref : P6221 : R001

Installation Name : Spraybooths SB1, SB2 & SB7
Visit Details : Compliance – November 2025
Survey Dates : 20th November 2025
Report Issue Date : 18th December 2025

5 SAMPLE POINT DESCRIPTIONS

The homogeneity test is applicable to combustion processes, but may also be requested by the regulator for non-combustion processes.

Homogeneity testing has not been completed at these locations.

The test is not usually required for stacks with sampling plane areas of <1m² (below 1.13m in diameter for circular ducts).

The Uncertainty of the reported concentrations for these pollutant results DOES NOT take into account the effect of non-conformities or sample location limitations.

The sample locations that were monitored are detailed below:

SB 1

The stack diameter is 0.62m and the sample platform width back to the MEWP handrail is 1.0m.

Two sample ports are located at the sample location in a vertical section of ducting. These ports are at 90 degrees to each other and are on the same plane. Access to the sample location / sample ports was via MEWP with heavy sampling equipment left at ground level.

SB 2 & SB 7

These two sample locations are largely identical. The stack diameter is 0.66m and the sample platform width back to the MEWP handrail is 1.0m.

In each case, a single sample port is located at the sample location in a horizontal section of ducting. Access to the sample location / sample port was via MEWP with heavy sampling equipment left at ground level.

Environmental Compliance Limited

Adler Pelzer Group

Permit No : PPC 92935

Variation No : V1

Report Ref : P6221 : R001

Installation Name

Visit Details

Survey Dates

Report Issue Date

: Spraybooths SB1, SB2 & SB7

: Compliance – November 2025

: 20th November 2025

: 18th December 2025

EQUIPMENT IDs
(Pre site checklist from SSP)

Adler Pelzer Group
 Permit No : PPC 92935
 Variation No : V1
 Report Ref : P6221 : R001

Installation Name : Spraybooths SB1, SB2 & SB7
 Visit Details : Compliance – November 2025
 Survey Dates : 20th November 2025
 Report Issue Date : 18th December 2025

PRE SITE EQUIPMENT CHECKLIST/ EQUIPMENT USED

(Completed before departure to site and when on site in full)

Equipment	Equip. Type	ID No:	ID No:	ID No:	ID No:	ID No:	ID No:	ID No:	ID No:
MST console/pump	E001	U008							
MST Nozzle set									
MST “S” Type Pitot									
MST Probe									
MST Probe Thermocouple									
MST Hot Box									
MST Impinger Arm									
Barometer		627							
Site Balance									
Site Check weights									
Horiba	E002								
Heated Probe / Filter									
Chiller									
MFC									
Heated Line									
FID	E003								
Heated Line									
Heated Probe / Filter									
Testo	E004								
FTIR	E005								
Heated Probe / Filter									
Heated Line									
Stackmite	E006								
“L” Type Pitot		1095							
Digital Manometer		1007							
Stack Thermocouple		1247							
Thermocouple Reader		1251							
Nozzle Set		1282							
Workhorse / Vapex Pumps	E007								
Stack Thermocouple									
Tube Thermocouple									
Meter Thermocouple									
High Vac Gauge									
Dioxin Thermocouple									

Quantity of Ice Required / Used for Survey

Zero

Bags (2kg bags)

Environmental Compliance Limited

Adler Pelzer Group		Installation Name	: Spraybooths SB1, SB2 & SB7
Permit No	: PPC 92935	Visit Details	: Compliance – November 2025
Variation No	: V1	Survey Dates	: 20th November 2025
Report Ref	: P6221	Report Issue Date	: 18th December 2025
	: R001		

TABLES

Adler Pelzer Group
 Permit No : PPC 92935
 Variation No : V1
 Report Ref : P6221 : R001

Installation Name : Spraybooths SB1, SB2 & SB7
 Visit Details : Compliance – November 2025
 Survey Dates : 20th November 2025
 Report Issue Date : 18th December 2025

Table 1 – Particulates

Data Recorded from SB1 - Spray Booths

Emission Parameter	Units	TPM	Blank
Stack Diameter	metres	0.62	...
Area of Sample Plane	m ²	0.302	...
Moisture Content	%	0.00	...
Oxygen Content	%	20.90	...
Stack Temperature	°C	11	...
Gas Velocity (as Measured. Adjusted for Smooth Walls)	m/sec	9.2843	...
Gas Velocity (Reference Conditions)	m/sec*	8.8370	...
Volumetric Flowrate (as Measured)	m ³ /sec	2.8030	...
Volumetric Flowrate (Reference Conditions)	m ³ /sec*	2.6679	...
Dry Gas Molecular Weight	g/gmole	28.8520	
Sample Date	...	20/11/2025	...
Sample Period	...	10:47 - 11:48	...
Sample Volume (reference Conditions)	m ³ *	1.416	1.416
Isokinetic Sampling Rate	%	111.85	...
Sample Reference (ECL ID)	ECL/25/	5953 & 5954	5955 & 5956
Mass of Particulate Matter Collected	mg	1.72	1.14
Concentration of Particulate Matter	mg/m ³ *	1.21	0.81
Emission Rate of Particulate Matter	g/hr	11.67	...
Expanded Uncertainty (% Relative)	%	30	...
Emission Limit Value (ELV)	mg/m ³ *	50	...
Blank Concentration as Percentage of ELV	%	...	1.61

*Reference Conditions (273K, 101.3kPa, Wet Gas)

Adler Pelzer Group
 Permit No : PPC 92935
 Variation No : V1
 Report Ref : P6221 : R001

Installation Name : Spraybooths SB1, SB2 & SB7
 Visit Details : Compliance – November 2025
 Survey Dates : 20th November 2025
 Report Issue Date : 18th December 2025

Table 2 – Particulates

Data Recorded from SB2 - Spray Booths

Emission Parameter	Units	TPM	Blank
Stack Diameter	metres	0.66	...
Area of Sample Plane	m ²	0.342	...
Moisture Content	%	0.00	...
Oxygen Content	%	20.90	...
Stack Temperature	°C	13	...
Gas Velocity (as Measured. Adjusted for Smooth Walls)	m/sec	6.3283	...
Gas Velocity (Reference Conditions)	m/sec*	5.9801	...
Volumetric Flowrate (as Measured)	m ³ /sec	2.1650	...
Volumetric Flowrate (Reference Conditions)	m ³ /sec*	2.0459	...
Dry Gas Molecular Weight	g/gmole	28.8520	
Sample Date	...	20/11/2025	...
Sample Period	...	14:27 - 15:27	...
Sample Volume (reference Conditions)	m ³ *	0.846	0.846
Isokinetic Sampling Rate	%	98.77	...
Sample Reference (ECL ID)	ECL/25/	5945 & 5946	5947 & 5948
Mass of Particulate Matter Collected	mg	0.54	0.54
Concentration of Particulate Matter	mg/m ³ *	0.64	0.64
Emission Rate of Particulate Matter	g/hr	4.70	...
Expanded Uncertainty (% Relative)	%	94	...
Emission Limit Value (ELV)	mg/m ³ *	50	...
Blank Concentration as Percentage of ELV	%	...	1.28

*Reference Conditions (273K, 101.3kPa, Wet Gas)

Adler Pelzer Group
 Permit No : PPC 92935
 Variation No : V1
 Report Ref : P6221 : R001

Installation Name : Spraybooths SB1, SB2 & SB7
 Visit Details : Compliance – November 2025
 Survey Dates : 20th November 2025
 Report Issue Date : 18th December 2025

Table 3 – Particulates

Data Recorded from SB7 - Spray Booths

Emission Parameter	Units	TPM	Blank
Stack Diameter	metres	0.66	...
Area of Sample Plane	m ²	0.342	...
Moisture Content	%	0.00	...
Oxygen Content	%	20.90	...
Stack Temperature	°C	13	...
Gas Velocity (as Measured. Adjusted for Smooth Walls)	m/sec	10.1236	...
Gas Velocity (Reference Conditions)	m/sec*	9.5677	...
Volumetric Flowrate (as Measured)	m ³ /sec	3.4635	...
Volumetric Flowrate (Reference Conditions)	m ³ /sec*	3.2733	...
Dry Gas Molecular Weight	g/gmole	28.8520	
Sample Date	...	20/11/2025	...
Sample Period	...	12:50 - 13:50	...
Sample Volume (reference Conditions)	m ³ *	1.389	1.389
Isokinetic Sampling Rate	%	101.38	...
Sample Reference (ECL ID)	ECL/25/	5949 & 5950	5951 & 5952
Mass of Particulate Matter Collected	mg	0.54	0.54
Concentration of Particulate Matter	mg/m ³ *	0.39	0.39
Emission Rate of Particulate Matter	g/hr	4.58	...
Expanded Uncertainty (% Relative)	%	94	...
Emission Limit Value (ELV)	mg/m ³ *	50	...
Blank Concentration as Percentage of ELV	%	...	<1.00%

*Reference Conditions (273K, 101.3kPa, Wet Gas)

Environmental Compliance Limited

Adler Pelzer Group

Permit No : PPC 92935

Variation No : V1

Report Ref : P6221 : R001

Installation Name

Visit Details

Survey Dates

Report Issue Date

: Spraybooths SB1, SB2 & SB7

: Compliance – November 2025

: 20th November 2025

: 18th December 2025

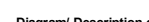
VELOCITY TRAVERSE PROFILES

Adler Pelzer Group
Permit No : PPC 92935
Variation No : V1
Report Ref : P6221 : R001

Installation Name : Spraybooths SB1, SB2 & SB7
Visit Details : Compliance – November 2025
Survey Dates : 20th November 2025
Report Issue Date : 18th December 2025

Company	Adler Pelzer group	Stack Diameter Port A (mm)	660	Average Stack Diameter (mm)	660	Pitot tube coefficient	0.98
Site	Tipton	Stack Diameter Port B (mm)		Port Length (mm)	100	Pitot Id	1095
Location	Spray Booths	Duct Length Port A (mm)		Average Duct Length (mm) L		Stack Thermocouple ID	1247
Stack	SB2	Duct Length Port B (mm)		Duct width (mm) B		Stack Temp Reader ID	1251
Job No	P6221	Duct Length Port C (mm)		Barometric Pressure. (mb)	1003	Manometer ID	1007
Operators	LH & JW	Duct Length Port D (mm)		Ave Static Press. (mm H ₂ O)	1.12	Barometer ID	627

Smooth Walls

Diagram/ Description of Cross Section of Stack/Duct




Suitability of Sampling Position	Actual Stack Conditions
Highest:lowest flow pressure ratio < 9:1?	1.12:1
Maximum deviation of flow from axis <15°?	2
X-sectional area for stacks= πr^2	0.34 m ²
X-sectional area for ducts = L x B	m ²
Suitability of Position for Sampling	OK

Notes
Including expected or actual deviations from procedures / non-conformities

Compliance With Positional Requirements?		
Height of sample ports from Platform		MEWP
Number of sample ports		1
Width of platform (port back to handrail)		MEWP
Nearest downstream disturbance	Bend	1m
Nearest upstream disturbance	Bend	4m
Disturbances are classed as bends, fans or diameter variations		

NOTE: Velocity / volume flowrate calculations exclude contributions from the measurement point(s) where swirl $> 15^\circ$

Adler Pelzer Group

Variation No : V1

: Roo1

Visit Details : Compliance – November 2025

Survey Dates : 20th November 2025

Report Issue Date : 18th December 2025

Company	Adler Pelzer group	Stack Diameter Port A (mm)	660	Average Stack Diameter (mm)	660	Pitot tube coefficient	0.98
Site	Tipton	Stack Diameter Port B (mm)		Port Length (mm)	100	Pitot Id	1095
Location	Spray Booths	Duct Length Port A (mm)		Average Duct Length (mm) L		Stack Thermocouple ID	1247
Stack	SB2	Duct Length Port B (mm)		Duct width (mm) B		Stack Temp Reader ID	1251
Job No	P6221	Duct Length Port C (mm)		Barometric Pressure. (mb)	1003	Manometer ID	1007
Operators	LH & JW	Duct Length Port D (mm)		Ave Static Press. (mm H ₂ O)	1.12	Barometer ID	627

Smooth Walls

Static Pressure Readings (mm H₂O)

Blockage Check @ A1 (L-Type Pitot Only)

Post - Traverse Checks Carried Out	Time	Pass/ Fail
Post - Traverse PITOT <u>Visual Inspection</u>	14:21:00	Pass
Post - Traverse PITOT Leak Check	14:23:00	Pass

Suitability of Sampling Position	Actual Stack Conditions
Highest:lowest flow pressure ratio < 9:1?	1.05:1
Maximum deviation of flow from axis <15°?	2
X-sectional area for stacks= πr^2	0.34 m ²
X-sectional area for ducts = L x B	m ²
Suitability of Position for Sampling	OK

Stack Moisture	0.1	%	Gas Velocity (as Measured) Adjusted for Smooth Walls	6.25411	m/sec
Measured Oxygen	20.9	%	Gas Velocity (Reference Conditions) Adjusted for Smooth Walls	5.91154	m/sec*
Measured Carbon Dioxide	0	%	Volumetric Flowrate (as Measured) Adjusted for Smooth Walls	2.13965	m ³ /sec
Dry Gas Molecular Weight	28.83600	g/g mole	Volumetric Flowrate (Ref Cond) Adjusted for Smooth Walls	2.02245	m ³ /sec*

NOTE: Velocity / volume flowrate calculations exclude contributions from the measurement point(s) where swirl $> 15^\circ$

A large, curved, metallic duct or pipe structure, likely part of a ventilation system, with a square access panel visible on its side. The duct is made of polished metal and is suspended by chains. The access panel is a square metal plate with a circular opening in the center. The background shows a dark, industrial setting with some equipment visible on the left.

Notes
Including expected or actual deviations from procedures / non-conformities

Compliance With Positional Requirements?

Height of sample ports from Platform

Number of sample ports

MEWP

1

Nearest downstream disturbance	Bend	1m
--------------------------------	------	----

Nearest upstream disturbance	Bend	4m
------------------------------	------	----

Disturbances are classed as bends, fans or diameter variations.

Adler Pelzer Group
Permit No : PPC 92935
Variation No : V1
Report Ref : P6221 : R001

Installation Name : Spraybooths SB1, SB2 & SB7
Visit Details : Compliance – November 2025
Survey Dates : 20th November 2025
Report Issue Date : 18th December 2025

Company	Adler Pelzer group	Stack Diameter Port A (mm)	660	Average Stack Diameter (mm)	660	Pitot tube coefficient	0.98
Site	Tipton	Stack Diameter Port B (mm)		Port Length (mm)	100	Pitot Id	1095
Location	Spray Booths	Duct Length Port A (mm)		Average Duct Length (mm) L		Stack Thermocouple ID	1247
Stack	SB7	Duct Length Port B (mm)		Duct width (mm) B		Stack Temp Reader ID	1251
Job No	P6221	Duct Length Port C (mm)		Barometric Pressure. (mb)	1003	Manometer ID	1007
Operators	LH & JW	Duct Length Port D (mm)		Ave Static Press. (mm H ₂ O)	2.13	Barometer ID	627

Smooth Walls

Static Pressure Readings (mm H ₂ O)			
Port A	Port B	Port C	Port D
2.13			

Stagnation Check (S-type Pitot Only)	Time	Reading
Static Pressure Via Positive Leg (mm H ₂ O)		
Static Pressure Via Negative Leg (mm H ₂ O)		
Difference (Pa) < 1 mm H ₂ O ?		

Suitability of Sampling Position	Actual Stack Conditions
Highest:lowest flow pressure ratio < 9:1?	1.25:1
Maximum deviation of flow from axis <15°?	2
X-sectional area for stacks= πr^2	0.34 m ²
X-sectional area for ducts = L x B	m ²
Suitability of Position for Sampling	OK

Stack Moisture	0.1	%	Gas Velocity (as Measured) Adjusted for Smooth Walls	10.28533	m/sec
Measured Oxygen	20.9	%	Gas Velocity (Reference Conditions) Adjusted for Smooth Walls	9.72292	m/sec*
Measured Carbon Dioxide	0	%	Volumetric Flowrate (as Measured) Adjusted for Smooth Walls	3.51881	m ³ /sec
Dry Gas Molecular Weight	28.83600	g/g mole	Volumetric Flowrate (Ref Cond) Adjusted for Smooth Walls	3.32640	m ³ /sec*

*Reference Conditions: 273K, 101.3kPa, Wet Gas

NOTE: Velocity / volume flowrate calculations exclude contributions from the measurement point(s) where swirl $> 15^\circ$

Diagram/ Description of Cross Section of Stack/Duct



Notes
Including expected or actual deviations from procedures / non-conformities

Compliance With Positional Requirements?

Height of sample ports from Platform	MEWP
Number of sample ports	1
Width of platform (port back to handrail)	MEWP

Nearest downstream disturbance	Bend	1m
Nearest upstream disturbance	Bend	8m
Disturbances are classed as bends, fans or diameter variations		

Environmental Compliance Limited

Adler Pelzer Group

Permit No : PPC 92935

Variation No : V1

Report Ref : P6221 : R001

Installation Name

Visit Details

Survey Dates

Report Issue Date

: Spraybooths SB1, SB2 & SB7

: Compliance – November 2025

: 20th November 2025

: 18th December 2025

FIELD SAMPLING DATA

Environmental Compliance Limited

Adler Pelzer Group
Permit No : PPC 92935
Variation No : V1
Report Ref : P6221 : Ro01

Installation Name : Spraybooths SB1, SB2 & SB7
Visit Details : Compliance – November 2025
Survey Dates : 20th November 2025
Report Issue Date : 18th December 2025

Particulates – SB 1

Environmental Compliance Limited		PARTICULATE DATA SAMPLING PROFORMA										Date of Measurement		20/11/2025									
ECL/TPD/		27										Time taken to change Ports?		1		Start Time		10:47		End Time		11:48	
Client	Adler Pelzer Group	Stack Profile	Circular	Console id	U008	Barometer id	627	Impinger 1							Solution		SOL NO						
Site	Tipton	Stack Area (m ²)	0.39	Pump id	U008	Nozzle size	1282	SOL							DI Water		5474						
Location	Spray Booths	Barometric Pressure (mb)	1003	Probe id	UH	Nozzle size	7.1	Start Weight (g)							Acetone		5378						
Stack ID	SB1	Static Pres. (mm H ₂ O)	2.98	DGM Yd	0.9544	Filter ID	26832-4880	End Weight (g)															
Test No.	TPM	Pilot coefficient	0.98	AHIS	42.4	Pilot ID	1095	Total weight (g)	0														
Job No.	P6221	Probe Heater Setting (°C)	n/a	Impinger id	n/a	Hot Box ID	n/a	Impinger 2															
ECL Site Staff	LH & JW	Hot Box Setting (°C)	n/a	Balance id	n/a	Slack <50% Spent at End of Test?	YES	SOL															
						Original K Factor Settings		Start Weight (g)															
						Meter Temp.	30	End Weight (g)															
						Stack Temp	11	Total weight (g)	0														
						%Moisture	0.10	Impinger3															
								SOL															
								Start Weight (g)															
								End Weight (g)															
								Total weight (g)	0														
								Impinger4															
								SOL															
								Start Weight (g)															
								End Weight (g)															
								Total weight (g)	0														
								Impinger 5															
								SOL															
								Start Weight (g)															
								End Weight (g)															
								Total weight (g)	0														
								Impinger 6															
								SOL															
								Start Weight (g)															
								End Weight (g)															
								Total weight (g)	0														
								Impinger 7															
								SOL															
								Start Weight (g)															
								End Weight (g)															
								Total weight (g)	0														
								Impinger 8															
								SOL															
								Start Weight (g)															
								End Weight (g)															
								Total weight (g)	0														
								Total (g)	0.00														
								PRE-Sample PITOT Visual Inspection															
								Time	10:34														
								Pass 7 (Y/N)	Y														
								Reading (mm H ₂ O)	6.33														
								Pass <5% ?	1.61														
								PRE-Sample PITOT Leak Check															
								Time	10:36														
								Pass 7 (Y/N)	Y														
								POST-Sample PITOT Visual Inspection															
								Time	11:52														
								Pass 7 (Y/N)	Y														
								POST-Sample PITOT Leak Check															
								Time	11:54														
								Pass 7 (Y/N)	Y														

Particulates – SB 2

Environmental Compliance Limited		PARTICULATE DATA SAMPLING PROFORMA										Date of Measurement		20/11/2025									
ECL/TPD/		27										Time taken to change Ports?		0		Start Time		14:27		End Time		15:27	
Client	Adler Pelzer Group	Stack Profile	Circular	Console id	U008	Barometer id	627	Impinger 1							Solution		SOL NO						
Site	Tipton	Stack Area (m ²)	0.34	Pump id	U008	Nozzle size	1282	SOL							DI Water		5474						
Location	Spray Booths	Barometric Pressure (mb)	1003	Probe id	UH	Nozzle size	7.1	Start Weight (g)							Acetone		5378						
Stack ID	SB2	Static Pres. (mm H ₂ O)	1.12	DGM Yd	0.9544	Filter ID	86	End Weight (g)															
Test No.	TPM	Pilot coefficient	0.98	AHIS	42.4	Pilot ID	1095	Total weight (g)	0														
Job No.	P6221	Probe Heater Setting (°C)	n/a	Impinger id	n/a	Hot Box ID	n/a	Impinger 2															
ECL Site Staff	LH & JW	Hot Box Setting (°C)	n/a	Balance id	n/a	Slack <50% Spent at End of Test?	YES	SOL															
						Original K Factor Settings		Start Weight (g)															
						Meter Temp.	30	End Weight (g)															
						Stack Temp	13	Total weight (g)	0														
						%Moisture	0.10	Impinger3															
								SOL															
								Start Weight (g)															
								End Weight (g)															
								Total weight (g)	0														
								Impinger 4															
								SOL															
								Start Weight (g)															
								End Weight (g)															
								Total weight (g)	0														
								Impinger 5															
								SOL															
								Start Weight (g)															
								End Weight (g)															
								Total weight (g)	0														
								Impinger 6															
								SOL															
								Start Weight (g)															
								End Weight (g)															
								Total weight (g)	0														
								Impinger 7															
								SOL															
								Start Weight (g)															
								End Weight (g)															
								Total weight (g)	0														
								Impinger 8															
								SOL															
								Start Weight (g)															
								End Weight (g)															
								Total weight (g)	0														
								Total (g)	0.00														
								PRE-Sample PITOT Visual Inspection															
								Time	14:21														
								Pass 7 (Y/N)	Y														
								Reading (mm H ₂ O)	2.88														
								Pass <5% ?	1.57														
								PRE-Sample PITOT Leak Check															
								Time	14:23														
								Pass 7 (Y/N)	Y														
								POST-Sample PITOT Visual Inspection															
								Time	15:31														
								Pass 7 (Y/N)	Y														
								POST-Sample PITOT Leak Check															
								Time	15:33														
								Pass 7 (Y/N)	Y														

Environmental Compliance Limited

Adler Pelzer Group
Permit No : PPC 92935
Variation No : V1
Report Ref : P6221 : R001

Installation Name : Spraybooths SB1, SB2 & SB7
Visit Details : Compliance – November 2025
Survey Dates : 20th November 2025
Report Issue Date : 18th December 2025

Particulates – SB 7

Environmental Compliance Limited		PARTICULATE DATA SAMPLING PROFORMA		Date of Measurement		20/11/2025	
ECL/TPD/		27		Time taken to change Ports?		0	
Client		Adler Pelzer Group		Start Time		12:50	
Site		Tipton		Test Duration		60 mins	
Location		Spray Booths		End Time		13:50	
Stack ID		SB7		Impinger 1		SOL/	
Test No.		TPM		Start Weight (g)			
Job No		P6221		End Weight (g)			
ECL Site Staff		LH & JW		Total weight (g)		0	
				Impinger 2		SOL/	
				Start Weight (g)			
				End Weight (g)			
				Total weight (g)		0	
				Impinger3		SOL/	
				Start Weight (g)			
				End Weight (g)			
				Total weight (g)		0	
				Impinger 4		SOL/	
				Start Weight (g)			
				End Weight (g)			
				Total weight (g)		0	
				Impinger 5		SOL/	
				Start Weight (g)			
				End Weight (g)			
				Total weight (g)		0	
				Impinger 6		SOL/	
				Start Weight (g)			
				End Weight (g)			
				Total weight (g)		0	
				Impinger 7		SOL/	
				Start Weight (g)			
				End Weight (g)			
				Total weight (g)		0	
				Impinger 8		SOL/	
				Start Weight (g)			
				End Weight (g)			
				Total weight (g)		0	
				Total (g)		0.00	
				PRE-Sample PITOT Visual Inspection		Time 12:38	
				Pass 7 (Y/N)		Y	
				PRE-Sample PITOT Leak Check		Time 12:40	
				Pass 7 (Y/N)		Y	
				POST-Sample PITOT Visual Inspection		Time 13:54	
				Pass 7 (Y/N)		Y	
				POST-Sample PITOT Leak Check		Time 13:56	
				Pass 7 (Y/N)		Y	

Adler Pelzer Group		Installation Name	: Spraybooths SB1, SB2 & SB7
Permit No	: PPC 92935	Visit Details	: Compliance – November 2025
Variation No	: V1	Survey Dates	: 20th November 2025
Report Ref	: P6221 : R001	Report Issue Date	: 18th December 2025

LABORATORY ANALYSIS RESULTS

Laboratory analysis for Particulates was subcontracted to RPS laboratories, a UKAS Accredited Testing Laboratory, Number 0605.

RPS DOES hold UKAS & MCERTS accreditation for this analysis.

As required by the MCERTS Performance Standard for Organisations, the analysis results are shown below.

Environmental Compliance Limited

Adler Pelzer Group
Permit No : PPC 92935
Variation No : V1
Report Ref : P6221 : R001

Installation Name : Spraybooths SB1, SB2 & SB7
Visit Details : Compliance – November 2025
Survey Dates : 20th November 2025
Report Issue Date : 18th December 2025

Customer Sample No	ECL/25/5945 - 000086	ECL/25/5946	ECL/25/5947 - 000087	ECL/25/5948	ECL/25/5949 - 268633	ECL/25/5950	ECL/25/5951 - 268641
RPS Sample No	336423	336424	336425	336426	336427	336428	336429
Sample Matrix	FILTER	SOLUTION	FILTER	SOLUTION	FILTER	SOLUTION	FILTER
Sampling Date	20/11/2025	20/11/2025	20/11/2025	20/11/2025	20/11/2025	20/11/2025	20/11/2025

Determinand	CAS No	Codes	SOP	RL	Units							
particulates		UM	D9	0.04	mg	< 0.04		< 0.04		< 0.04		< 0.04
particulates		UM	D9	0.5	mg		< 0.5		< 0.5		< 0.5	

Customer Sample No	ECL/25/5952	ECL/25/5953 - 268632	ECL/25/5954	ECL/25/5955 - 000085	ECL/25/5956	ECL/25/5957 - 272590	ECL/25/5958
RPS Sample No	336430	336431	336432	336433	336434	336435	336436
Sample Matrix	SOLUTION	FILTER	SOLUTION	FILTER	SOLUTION	FILTER	SOLUTION
Sampling Date	20/11/2025	20/11/2025	20/11/2025	20/11/2025	20/11/2025	20/11/2025	20/11/2025

Determinand	CAS No	Codes	SOP	RL	Units							
particulates		UM	D9	0.04	mg		0.12		< 0.04		< 0.04	
particulates		UM	D9	0.5	mg	0.5		1.6		1.1		< 0.5

Environmental Compliance Limited

Adler Pelzer Group

Permit No : PPC 92935

Variation No : V1

Report Ref : P6221 : R001

Installation Name

: Spraybooths SB1, SB2 & SB7

Visit Details

: Compliance – November 2025

Survey Dates

: 20th November 2025

Report Issue Date

: 18th December 2025

UNCERTAINTY CALCULATIONS

Environmental Compliance Limited

Adler Pelzer Group
Permit No : PPC 92935
Variation No : V1
Report Ref : P6221 : R001

Installation Name : Spraybooths SB1, SB2 & SB7
Visit Details : Compliance – November 2025
Survey Dates : 20th November 2025
Report Issue Date : 18th December 2025

Particulates Uncertainty – SB 1

Site: Tipton
Location: SB1

$$u_{mass} = \sqrt{\sum (u_{filter})^2 + (u_{solution})^2}$$

Determinand	Filter mg	Solution mg	Recovered Mass mg	LAB Method Uncert Filter mg	K=2 Solution mg	Standard Uncertainty Filter mg	Solution mg	Combined Uncertainty mg
TPM								
Particulates	0.12	1.60	1.72	0.10	0.50	0.0500	0.25	0.25
...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...

TPM			Standard Uncertainty @ 95%		
Sampled Volume (V _m)	1.58	m ³	uV _m	0.001	m ³
Meter Correction Factor (Y _d)	0.95	...	...	...	...
Meter Temperature (T _m)	290.17	k	uT _m	1.5	k
Average Differential Pressure (ΔH)	57.81	mmH ₂ O	uΔH	0.25	mmH ₂ O
Barometric Pressure (p _b)	752.31	mmHg	up _b	3.8	mmHg
ΔH + ps (p _m)	100.87	kPa	...	...	...
Oxygen content (O _{2,m})	20.90	% by volume	uO _{2,m} = σ/√n	0.00	% by volume
Moisture Content (H ₂ O)	0.00	% by volume	uH ₂ O	#DIV/0!	% by volume

Note: In the following calculations, the sensitivity coefficient (C) is estimated using: $C_i = \frac{\partial f}{\partial x_i}$

For each factor, uncertainty is then calculated by $C_i u_i$, where C is the sensitivity coefficient, u is the standard uncertainty and i is the index identifying the contributing factor e.g. $i = uV_m$, uT_m etc.

Where results are required at wet conditions, the following correction factor is used to convert the data from the dry gas meter:

TPM:

$$f_{s,wet} = \frac{100}{(100 - H_2O)} = 1.00$$

Uncertainty in correction factor to STP due to measured ΔH uncertainty component (uΔH), measured stack pressure uncertainty component (up_b) & measured temperature of dry gas uncertainty component (uT_{m Dry})

TPM:

$$f_s = \frac{273}{760} \times \frac{P_b + \Delta H}{T_m} \times Y_d = 0.894$$

	Maximum	Minimum	Sensitivity	ufstp
uΔH	0.89	0.89	0.0000869	0.0000217
up _b	0.90	0.89	0.00118	0.00443
uT _m	0.90	0.89	0.00308	0.00462
H ₂ O	...	...	...	...

$$\frac{uf_s}{f_s} = \sqrt{\left(\frac{\sqrt{(u\Delta H)^2 + (uP_b)^2}}{(P_b/101.3)}\right)^2 + \left(\frac{uT_m}{(T_m/273.15)}\right)^2 + \left(\frac{uH_2O}{(100/(100-H_2O))}\right)^2} = 0.00556$$

Uncertainty in volume @ STP due to volume correction factor uncertainty component (uV_{std}) & volume uncertainty component (uV_m)

TPM:

$$V_{std} = V_{measured} \times f_s = 1.416$$

	Maximum m ³	Minimum m ³	Sensitivity	Standard Uncertainty (m ³)
Effect of uV _{std}	1.42	1.41	1.58	0.00881
Effect of uV _m	1.42	1.41	0.89	0.000894

Combined Standard Uncertainty

$$\frac{uV_{std}}{V_{std}} = \sqrt{\left(\frac{uV_{std}}{f_s}\right)^2 + \left(\frac{uV_m}{V_m}\right)^2} = 0.0140$$

Uncertainty of Oxygen Correction Factor (%):-

TPM:

$$f_{O_2} = \frac{20.9\% - O_{2,ref}}{20.9\% - O_{2,measured}} = 1.00$$

$$uCorr_{O_2} = \frac{20.9\% - O_{2,ref}}{(20.9\% - O_{2,measured}) \times \text{Uncertainty of } O_2 \text{ Measurement}} = 1.00$$

$$uf_{O_2} = \frac{uCorr_{O_2}}{f_{O_2}} \times 100 = 0.00\%$$

Environmental Compliance Limited

Adler Pelzer Group
 Permit No : PPC 92935
 Variation No : V1
 Report Ref : P6221 : R001

Installation Name : Spraybooths SB1, SB2 & SB7
 Visit Details : Compliance – November 2025
 Survey Dates : 20th November 2025
 Report Issue Date : 18th December 2025

Uncertainty in final measurement @ reference conditions due to mass uncertainty component (uM)

Determinand	TPM:			
	Maximum mg/Nm ³	Minimum mg/Nm ³	Sensitivity	uM mg/Nm ³
Particulates	1.39	1.03	0.71	0.18
Hydrogen Chloride	...	...	...	...
Sulphur Dioxide	...	...	...	...
Ammonia	...	...	...	...

Uncertainty in final measurement @ reference conditions due to uncertainty component arising from leak and/or loss (assumed 2% max) in the sample system (uL)

Determinand	TPM:
	uL mg/Nm ³
Particulates	0.0140
Hydrogen Chloride	...
Sulphur Dioxide	...
Ammonia	...

Uncertainty in final measurement @ Reference Conditions due to uVstp

Determinand	TPM:			
	Maximum mg/Nm ³	Minimum mg/Nm ³	Sensitivity	uVstp mg/Nm ³
Particulates	1.23	1.20	0.86	0.0120
Hydrogen Chloride	...	...	...	...
Sulphur Dioxide	...	...	...	...
Ammonia	...	...	...	...

Measurement Uncertainty of Determinand (excluding correction for oxygen)

$$u_{combined} = \sqrt{\sum (u_M)^2 + (u_L)^2 + (u_{Vstp})^2}$$

Determinand	TPM:				Expanded Uncertainty as % of ELV (Excluding O ₂ Correction)
	Measurement Uncertainty mg/Nm ³	Expanded Uncertainty mg/Nm ³	Measured Concentration mg/Nm ³	Percent of Measured Concentration	
Particulates	0.18	0.36	1.21	29.80	0.72
Hydrogen Chloride	...	...	...	...	...
Sulphur Dioxide	...	...	...	...	...
Ammonia	...	...	...	...	...

Combined Uncertainty including oxygen contribution

$$u_{combined} = \sqrt{\sum (u_{f_{O_2}})^2 + (Uncertainty\ of\ Measurement\ of\ Determinand)^2}$$

Determinand	TPM:			Expanded Uncertainty mg/Nm ³	Expanded Uncertainty as % of ELV (Including O ₂ Correction)
	Measurement Uncertainty of Determinand (%)	Measurement Uncertainty of Oxygen Corr ⁿ Factor (%)	Overall Measurement Uncertainty inc O ₂ Corr ⁿ factor (Ucombined) (%)		
Particulates	29.80	0.00	29.80	0.36	0.72
Hydrogen Chloride	...	...	...	...	...
Sulphur Dioxide	...	...	...	...	...
Ammonia	...	...	...	...	...

Environmental Compliance Limited

Adler Pelzer Group
Permit No : PPC 92935
Variation No : V1
Report Ref : P6221 : R001

Installation Name : Spraybooths SB1, SB2 & SB7
Visit Details : Compliance – November 2025
Survey Dates : 20th November 2025
Report Issue Date : 18th December 2025

Particulates Uncertainty – SB 2

Site: Tipton
Location: SB2

$$u_{mass} = \sqrt{\sum (u_{filter})^2 + (u_{solution})^2}$$

Determinand	Filter mg	Solution mg	Recovered Mass mg	LAB Method Uncert Filter mg	K=2 Solution mg	Standard Uncertainty Filter mg	Solution mg	Combined Uncertainty mg
TPM								
Particulates	0.0400	0.50	0.54	0.10	0.50	0.0500	0.25	0.25
...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...

TPM			Standard Uncertainty @ 95%		
Sampled Volume (V _m)	0.97	m ³	uV _m	0.001	m ³
Meter Correction Factor (Y _d)	0.95	...	...	...	...
Meter Temperature (T _m)	295.50	k	uT _m	1.5	k
Average Differential Pressure (ΔH)	25.88	mmH ₂ O	uΔH	0.25	mmH ₂ O
Barometric Pressure (p _b)	752.31	mmHg	up _b	3.8	mmHg
ΔH + ps (p _m)	100.55	kPa	...	...	...
Oxygen content (O _{2,m})	20.90	% by volume	uO _{2,m} = σ/√n	0.00	% by volume
Moisture Content (H ₂ O)	0.00	% by volume	uH ₂ O	#DIV/0!	% by volume

Note: In the following calculations, the sensitivity coefficient (C) is estimated using: $C_i = \frac{\partial f}{\partial x_i}$

For each factor, uncertainty is then calculated by $C_i u_i$, where C is the sensitivity coefficient, u is the standard uncertainty and i is the index identifying the contributing factor e.g. $i = uV_m$, uT_m etc.

Where results are required at wet conditions, the following correction factor is used to convert the data from the dry gas meter:

TPM:

$$f_{s, wet} = \frac{100}{(100 - H_2O)} = 1.00$$

Uncertainty in correction factor to STP due to measured ΔH uncertainty component (uΔH), measured stack pressure uncertainty component (up_b) & measured temperature of dry gas uncertainty component (uT_{m dry})

TPM:

$$f_s = \frac{273}{760} \times \frac{P_b + \frac{\Delta H}{13.6}}{T_m} \times Y_d = 0.875$$

	Maximum	Minimum	Sensitivity	ufstp
uΔH	0.88	0.87	0.0000853	0.0000213
up _b	0.88	0.87	0.00116	0.00435
uT _m	0.88	0.87	0.00296	0.00444
H ₂ O	...	...	...	...

$$\frac{uf_s}{f_s} = \sqrt{\left(\frac{(u\Delta H)^2 + (uP_b)^2}{(P_b/101.3)}\right)^2 + \left(\frac{uT_m}{(T_m/273.15)}\right)^2 + \left(\frac{uH_2O}{100/(100 - H_2O)}\right)^2} = 0.00526$$

Uncertainty in volume @ STP due to volume correction factor uncertainty component (uV_{std}) & volume uncertainty component (uV_m)

TPM:

$$V_{std} = V_{measured} \times f_s = 0.846$$

	Maximum m ³	Minimum m ³	Sensitivity	Standard Uncertainty (m ³)
Effect of uV _{std}	0.85	0.84	0.97	0.00508
Effect of uV _m	0.85	0.85	0.88	0.000875

Combined Standard Uncertainty

$$\frac{uV_{std}}{V_{std}} = \sqrt{\left(\frac{uV_{std}}{f_s}\right)^2 + \left(\frac{uV_m}{V_m}\right)^2} = 0.00497$$

Uncertainty of Oxygen Correction Factor (%):-

TPM:

$$f_{O_2} = \frac{20.9\% - O_{2, ref}}{20.9\% - O_{2, measured}} = 1.00$$

$$uCorr_{O_2} = \frac{20.9\% - O_{2, ref}}{(20.9\% - O_{2, measured}) \times (20.9\% - O_{2, measured})} \times \text{Uncertainty of } O_2 \text{ Measurement} = 1.00$$

$$uf_{O_2} = \frac{uCorr_{O_2}}{f_{O_2}} \times 100 = 0.00\%$$

Environmental Compliance Limited

Adler Pelzer Group
 Permit No : PPC 92935
 Variation No : V1
 Report Ref : P6221 : R001

Installation Name : Spraybooths SB1, SB2 & SB7
 Visit Details : Compliance – November 2025
 Survey Dates : 20th November 2025
 Report Issue Date : 18th December 2025

Uncertainty in final measurement @ reference conditions due to mass uncertainty component (uM)

Determinand	TPM:			
	Maximum mg/Nm ³	Minimum mg/Nm ³	Sensitivity	uM mg/Nm ³
Particulates	0.94	0.34	1.18	0.30
Hydrogen Chloride	...	...	...	...
Sulphur Dioxide	...	...	...	...
Ammonia	...	...	...	...

Uncertainty in final measurement @ reference conditions due to uncertainty component arising from leak and/or loss (assumed 2% max) in the sample system (uL)

Determinand	TPM: uL mg/Nm ³
	0.00737
Particulates	...
Hydrogen Chloride	...
Sulphur Dioxide	...
Ammonia	...

Uncertainty in final measurement @ Reference Conditions due to uVstp

Determinand	TPM:			
	Maximum mg/Nm ³	Minimum mg/Nm ³	Sensitivity	uVstp mg/Nm ³
Particulates	0.64	0.63	0.75	0.00375
Hydrogen Chloride	...	...	...	...
Sulphur Dioxide	...	...	...	...
Ammonia	...	...	...	...

Measurement Uncertainty of Determinand (excluding correction for oxygen)

$$u_{combined} = \sqrt{\sum (u_M)^2 + (u_L)^2 + (u_{Vstp})^2}$$

Determinand	TPM:				Expanded Uncertainty as % of ELV (Excluding O ₂ Correction)
	Measurement Uncertainty mg/Nm ³	Expanded Uncertainty mg/Nm ³	Measured Concentration mg/Nm ³	Percent of Measured Concentration	
Particulates	0.30	0.60	0.64	94.46	1.21
Hydrogen Chloride	...	...	...	...	...
Sulphur Dioxide	...	...	...	...	...
Ammonia	...	...	...	...	...

Combined Uncertainty including oxygen contribution

$$u_{combined} = \sqrt{\sum (uf_{o_2})^2 + (Uncertainty\ of\ Measurement\ of\ Determinand)^2}$$

Determinand	TPM:			Expanded Uncertainty mg/Nm ³	Expanded Uncertainty as % of ELV (Including O ₂ Correction)
	Measurement Uncertainty of Determinand (%)	Measurement Uncertainty of Oxygen Corr ³ Factor (%)	Overall Measurement Uncertainty inc O ₂ Corr ³ factor (Ucombined) (%)		
Particulates	94.46	0.00	94.46	0.60	1.21
Hydrogen Chloride	...	...	...	...	...
Sulphur Dioxide	...	...	...	...	...
Ammonia	...	...	...	...	...

Environmental Compliance Limited

Adler Pelzer Group
Permit No : PPC 92935
Variation No : V1
Report Ref : P6221 : R001

Installation Name : Spraybooths SB1, SB2 & SB7
Visit Details : Compliance – November 2025
Survey Dates : 20th November 2025
Report Issue Date : 18th December 2025

Particulates Uncertainty – SB 7

Site: Tipton
Location: SB7

$$u_{mass} = \sqrt{\sum (u_{filter})^2 + (u_{solution})^2}$$

Determinand	Filter mg	Solution mg	Recovered Mass mg	LAB Method Uncert K=2 Filter mg	Solution mg	Standard Uncertainty Filter mg	Solution mg	Combined Uncertainty mg
Particulates	0.0400	0.50	0.54	0.10	0.50	0.0500	0.25	0.25
...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...

	TPM		Standard Uncertainty @ 95%
Sampled Volume (V _m)	1.57	m ³	uV _m 0.001 m ³
Meter Correction Factor (Y _d)	0.95	...	...
Meter Temperature (T _m)	293.50	k	uT _m 1.5 k
Average Differential Pressure (ΔH)	66.24	mmH ₂ O	uΔH 0.25 mmH ₂ O
Barometric Pressure (p _b)	752.31	mmHg	uP _b 3.8 mmHg
ΔH + ρs (ρ _m)	100.95	kPa	...
Oxygen content (O _{2,m})	20.90	% by volume	uO _{2,m} = σ/√n 0.00 % by volume
Moisture Content (H ₂ O)	0.00	% by volume	uH ₂ O #DIV/0! % by volume

Note: In the following calculations, the sensitivity coefficient (C) is estimated using: $C_i = \frac{\partial f}{\partial x_i}$

For each factor, uncertainty is then calculated by $C_i u_i$ where C is the sensitivity coefficient, u is the standard uncertainty and i is the index identifying the contributing factor e.g. $i = uV_m, uT_m$ etc.

Where results are required at wet conditions, the following correction factor is used to convert the data from the dry gas meter:

TPM:

$$f_{s,wet} = \frac{100}{(100 - H_2O)} = 1.00$$

Uncertainty in correction factor to STP due to measured ΔH uncertainty component (uΔH), measured stack pressure uncertainty component (uP_b) & measured temperature of dry gas uncertainty component (uT_{m dry})

TPM:

$$f_s = \frac{273}{760} \times \frac{P_b + \frac{\Delta H}{T_m}}{13.6} \times Y_d = 0.884$$

	Maximum	Minimum	Sensitivity	ufstp
uΔH	0.88	0.88	0.0000859	0.0000215
uP _b	0.89	0.88	0.00117	0.00438
uT _m	0.89	0.88	0.00301	0.00452
H ₂ O	...	...	...	...

$$u_{f_s} = \sqrt{\left(\frac{u\Delta H}{(P_m/101.3)}\right)^2 + \left(\frac{uT_m}{(T_m/273.15)}\right)^2 + \left(\frac{uH_2O}{100/(100-H_2O)}\right)^2} = 0.00538$$

Uncertainty in volume @ STP due to volume correction factor uncertainty component (uV_{std}) & volume uncertainty component (uV_m)

TPM:

$$V_{std} = V_{measured} \times f_s = 1.389$$

	Maximum	Minimum	Sensitivity	Standard
	m ³	m ³		Uncertainty (m ³)
Effect of uV _{std}	1.40	1.38	1.57	0.00845
Effect of uV _m	1.39	1.39	0.88	0.000884

Combined Standard Uncertainty

$$\frac{uV_{std}}{V_{std}} = \sqrt{\left(\frac{uV_{std}}{f_s}\right)^2 + \left(\frac{uV_m}{V_m}\right)^2} = 0.0133$$

Uncertainty of Oxygen Correction Factor (%):-

TPM:

$$f_{o_2} = \frac{20.9\% - O_{2,ref}}{20.9\% - O_{2,measured}} = 1.00$$

$$uCorr_{o_2} = \frac{20.9\% - O_{2,ref}}{(20.9\% - O_{2,measured}) \times \text{Uncertainty of } O_2 \text{ Measurement}} = 1.00$$

$$uf_{o_2} = \frac{uCorr_{o_2}}{f_{o_2}} \times 100 = 0.00 \%$$

Environmental Compliance Limited

Adler Pelzer Group
 Permit No : PPC 92935
 Variation No : V1
 Report Ref : P6221 : R001

Installation Name : Spraybooths SB1, SB2 & SB7
 Visit Details : Compliance – November 2025
 Survey Dates : 20th November 2025
 Report Issue Date : 18th December 2025

Uncertainty in final measurement @ reference conditions due to mass uncertainty component (uM)

Determinand	TPM:			
	Maximum mg/Nm ³	Minimum mg/Nm ³	Sensitivity	uM mg/Nm ³
Particulates	0.57	0.21	0.72	0.18
Hydrogen Chloride	...	...	...	...
Sulphur Dioxide	...	...	...	...
Ammonia	...	...	...	...

Uncertainty in final measurement @ reference conditions due to uncertainty component arising from leak and/or loss (assumed 2% max) in the sample system (uL)

Determinand	TPM:
	uL mg/Nm ³
Particulates	0.00449
Hydrogen Chloride	...
Sulphur Dioxide	...
Ammonia	...

Uncertainty in final measurement @ Reference Conditions due to uVstp

Determinand	TPM:			
	Maximum mg/Nm ³	Minimum mg/Nm ³	Sensitivity	uVstp mg/Nm ³
Particulates	0.39	0.38	0.28	0.00372
Hydrogen Chloride	...	...	...	...
Sulphur Dioxide	...	...	...	...
Ammonia	...	...	...	...

Measurement Uncertainty of Determinand (excluding correction for oxygen)

$$u_{combined} = \sqrt{\sum (u_M)^2 + (u_L)^2 + (uV_{stp})^2}$$

Determinand	TPM:				Expanded Uncertainty as % of ELV (Excluding O ₂ Correction)
	Measurement Uncertainty mg/Nm ³	Expanded Uncertainty mg/Nm ³	Measured Concentration mg/Nm ³	Percent of Measured Concentration	
Particulates	0.18	0.37	0.39	94.47	0.73
Hydrogen Chloride	...	...	...	...	...
Sulphur Dioxide	...	...	...	...	...
Ammonia	...	...	...	...	...

Combined Uncertainty including oxygen contribution

$$u_{combined} = \sqrt{\sum (uf_{o_2})^2 + (Uncertainty\ of\ Measurement\ of\ Determinand)^2}$$

Determinand	TPM:			Expanded Uncertainty mg/Nm ³	Expanded Uncertainty as % of ELV (Including O ₂ Correction)
	Measurement Uncertainty of Determinand (%)	Measurement Uncertainty of Oxygen Corr ⁿ Factor (%)	Overall Measurement Uncertainty inc O ₂ Corr ⁿ factor (Ucombined) (%)		
Particulates	94.47	0.00	94.47	0.37	0.73
Hydrogen Chloride	...	...	...	...	...
Sulphur Dioxide	...	...	...	...	...
Ammonia	...	...	...	...	...

Adler Pelzer Group
 Permit No : PPC 92935
 Variation No : V1
 Report Ref : P6221 : R001

Installation Name : Spraybooths SB1, SB2 & SB7
 Visit Details : Compliance – November 2025
 Survey Dates : 20th November 2025
 Report Issue Date : 18th December 2025

Stack Reference SB1

Measurement Uncertainty Calculations - Velocity at Stack Conditions

Contribution From	Standard u/c (mm H ₂ O)	
Pitot Calibration Uncertainty Contribution	0.029	A
Manometer Calibration Uncertainty Contribution	0.029	B
Variation in Actual Pitot reading at sample points	0.11	C
Combined u/c (mm H ₂ O) =	Combined u/c (mm H ₂ O)	
$\text{SQRT } (A/\sqrt{3})^2 + (B/\sqrt{3})^2 + (C/\sqrt{3})^2$	0.07	
Expanded Uncertainty of Flow Measurements (mm H₂O)	0.14	
	Standard u/c (K)	
Temperature Calibration (K)	1.42	D
Variation in Actual Temp reading at sample points	0.00	E
Combined u/c of Temp (K)	Combined u/c (K)	
$\text{SQRT } ((D/\sqrt{3})^2 + (E/\sqrt{3})^2)$	0.82	
Expanded Uncertainty of Temp Measurements (K)	1.64	
Measured Average Velocity (m/s) at Stack Conds	9.48	
Maximum Average Velocity (m/s) at Stack Conds	9.62	
Standard Uncertainty Velocity at Stack Conditions (%)	1.47	
Expanded Uncertainty Velocity (at Stack Conditions)	2.93 (%)	

Measurement Uncertainty Calculations - Flowrate at Stack Conditions

Contribution From	Standard u/c (m ²)
Area (m ²)	0.00302
Measured Average Flowrate (m ³ /s) at Stack Conds	2.86
Maximum Average Flowrate (m ³ /s) at Stack Conds	2.93
Standard Uncertainty Flowrate (m ³ /s) at Stack Conditions (%)	2.48
Expanded Uncertainty Flowrate (m³/s) at Stack Conditions	4.96 (%)

Measurement Uncertainty Calculations - Flowrate at STP & Wet Gas

Contribution From	Standard u/c (%)
Temperature Calibration (K)	0.5
Barometer Calibration	0.5
Measured Average Flowrate (m ³ /s) at STP Wet	2.72
Maximum Average Flowrate (m ³ /s) at STP Wet	2.80
Standard Uncertainty Flowrate (m ³ /s) at STP Wet	2.97
Expanded Uncertainty Flowrate (m³/s) at STP Wet	5.95 (%)

Adler Pelzer Group
 Permit No : PPC 92935
 Variation No : V1
 Report Ref : P6221 : R001

Installation Name : Spraybooths SB1, SB2 & SB7
 Visit Details : Compliance – November 2025
 Survey Dates : 20th November 2025
 Report Issue Date : 18th December 2025

Stack Reference SB2

Measurement Uncertainty Calculations - Velocity at Stack Conditions

Contribution From	Standard u/c (mm H ₂ O)	
Pitot Calibration Uncertainty Contribution	0.013	A
Manometer Calibration Uncertainty Contribution	0.013	B
Variation in Actual Pitot reading at sample points	0.11	C
Combined u/c (mm H ₂ O) =	Combined u/c (mm H ₂ O)	
$\text{SQRT } (A/\sqrt{3})^2 + (B/\sqrt{3})^2 + (C/\sqrt{3})^2$	0.06	
Expanded Uncertainty of Flow Measurements (mm H₂O)	0.12	
	Standard u/c (K)	
Temperature Calibration (K)	1.43	D
Variation in Actual Temp reading at sample points	0.00	E
Combined u/c of Temp (K)	Combined u/c (K)	
$\text{SQRT } ((D/\sqrt{3})^2 + (E/\sqrt{3})^2)$	0.83	
Expanded Uncertainty of Temp Measurements (K)	1.65	
Measured Average Velocity (m/s) at Stack Conds	6.28	
Maximum Average Velocity (m/s) at Stack Conds	6.45	
Standard Uncertainty Velocity at Stack Conditions (%)	2.71	
Expanded Uncertainty Velocity (at Stack Conditions)	5.42 (%)	

Measurement Uncertainty Calculations - Flowrate at Stack Conditions

Contribution From	Standard u/c (m ²)
Area (m ²)	0.00342
Measured Average Flowrate (m ³ /s) at Stack Conds	2.15
Maximum Average Flowrate (m ³ /s) at Stack Conds	2.23
Standard Uncertainty Flowrate (m ³ /s) at Stack Conditions (%)	3.73
Expanded Uncertainty Flowrate (m³/s) at Stack Conditions	7.47 (%)

Measurement Uncertainty Calculations - Flowrate at STP & Wet Gas

Contribution From	Standard u/c (%)
Temperature Calibration (K)	0.5
Barometer Calibration	0.5
Measured Average Flowrate (m ³ /s) at STP Wet	2.03
Maximum Average Flowrate (m ³ /s) at STP Wet	2.12
Standard Uncertainty Flowrate (m ³ /s) at STP Wet	4.23
Expanded Uncertainty Flowrate (m³/s) at STP Wet	8.46 (%)

Adler Pelzer Group
 Permit No : PPC 92935
 Variation No : V1
 Report Ref : P6221 : R001

Installation Name : Spraybooths SB1, SB2 & SB7
 Visit Details : Compliance – November 2025
 Survey Dates : 20th November 2025
 Report Issue Date : 18th December 2025

Stack Reference SB7

Measurement Uncertainty Calculations - Velocity at Stack Conditions

Contribution From	Standard u/c (mm H ₂ O)	
Pitot Calibration Uncertainty Contribution	0.033	A
Manometer Calibration Uncertainty Contribution	0.033	B
Variation in Actual Pitot reading at sample points	0.11	C
Combined u/c (mm H ₂ O) =	Combined u/c (mm H ₂ O)	
$\text{SQRT } (A/\sqrt{3})^2 + (B/\sqrt{3})^2 + (C/\sqrt{3})^2$	0.07	
Expanded Uncertainty of Flow Measurements (mm H₂O)	0.14	
	Standard u/c (K)	
Temperature Calibration (K)	1.43	D
Variation in Actual Temp reading at sample points	0.00	E
Combined u/c of Temp (K)	Combined u/c (K)	
$\text{SQRT } ((D/\sqrt{3})^2 + (E/\sqrt{3})^2)$	0.83	
Expanded Uncertainty of Temp Measurements (K)	1.65	
Measured Average Velocity (m/s) at Stack Conds	10.17	
Maximum Average Velocity (m/s) at Stack Conds	10.30	
Standard Uncertainty Velocity at Stack Conditions (%)	1.30	
Expanded Uncertainty Velocity (at Stack Conditions)	2.60 (%)	

Measurement Uncertainty Calculations - Flowrate at Stack Conditions

Contribution From	Standard u/c (m ²)
Area (m ²)	0.00342
Measured Average Flowrate (m ³ /s) at Stack Conds	3.48
Maximum Average Flowrate (m ³ /s) at Stack Conds	3.56
Standard Uncertainty Flowrate (m ³ /s) at Stack Conditions (%)	2.31
Expanded Uncertainty Flowrate (m³/s) at Stack Conditions	4.63 (%)

Measurement Uncertainty Calculations - Flowrate at STP & Wet Gas

Contribution From	Standard u/c (%)
Temperature Calibration (K)	0.5
Barometer Calibration	0.5
Measured Average Flowrate (m ³ /s) at STP Wet	3.29
Maximum Average Flowrate (m ³ /s) at STP Wet	3.38
Standard Uncertainty Flowrate (m ³ /s) at STP Wet	2.80
Expanded Uncertainty Flowrate (m³/s) at STP Wet	5.60 (%)

APPENDIX III H1 CALCULATION SHEET

CAB Automotive Limited (Adler Pelzer Group) - H1 Assessment of Emissions to Air



Acronyms / Abbreviations					
AAD = Ambient Air Directive		AQS = Air Quality Standard		EA = Environment Agency	
LT = Long-term, ST= Short-term		MEK = methyl ethyl ketone		EAL = Environmental Assessment Level	
				PC = Process Contribution	
				SB = Spray Booth	
				ELV = Emission Limit Value	
				VOC = Volatile Organic Compound	

Stage one screening:															
Stack	Pollutant	Assumed ELV (mg/m ³) ^(a)	Volumetric Flow Rate (m ³ /s) ^(a)	Discharge Rate (g/s)	Effective Stack Height (m) ^(c)	Dispersion Factor		PC ^(b)		AAD AQS or EAL		PC as % of AQS or EAL		PC Significant? ^(f)	
						LT	ST	LT ^(d)	ST	LT	ST	LT	ST	LT	ST
SB1	VOC (as acetone)	50	2.71	0.136	0.00	148	3900	1.33	159	18,100	362,000	0.01%	0.04%	No	No
	VOC (as butylacetate-norm)							1.33	159	7,240	96,600	0.02%	0.16%	No	No
	VOC (as 2-methoxy-1-methylethylacetate)							0.442	52.9	2,740	54,800	0.02%	0.10%	No	No
	VOC (as butane)							0.442	52.9	14,500	181,000	0.003%	0.03%	No	No
	VOC (as methylal)							0.663	79.3	31,600	395,000	0.002%	0.02%	No	No
SB2	VOC (as cyclohexane)	50	2.02	0.101	0.00	148	3900	1.98	236	3,500	105,000	0.06%	0.23%	No	No
	VOC (as dimethyl ether)							1.98	236	7,660	95,800	0.03%	0.25%	No	No
	VOC (as acetone)							0.988	118	18,100	362,000	0.01%	0.03%	No	No
	VOC (as MEK)							0.329	39.4	6,000	89,900	0.01%	0.04%	No	No
	VOC (as ethanol)							0.165	19.7	19,200	576,000	0.001%	0.003%	No	No
	VOC (as butane)							0.165	19.7	14,500	181,000	0.001%	0.01%	No	No
SB7	VOC (as cyclohexane)	50	3.27	0.164	0.00	148	3900	3.20	383	3,500	105,000	0.09%	0.36%	No	No
	VOC (as dimethyl ether)							3.20	383	7,660	95,800	0.04%	0.40%	No	No
	VOC (as acetone)							1.60	191	18,100	362,000	0.01%	0.05%	No	No
	VOC (as MEK)							0.533	63.8	6,000	89,900	0.01%	0.07%	No	No
	VOC (as ethanol)							0.267	31.9	19,200	576,000	0.001%	0.01%	No	No
	VOC (as butane)							0.267	31.9	14,500	181,000	0.002%	0.02%	No	No
PU Foam Line: Box1	VOC (as hydrocarbons C11-C12, isoalkanes)	0.0275	1.49	0.0000410	0.00	148	3900	0.00134	0.160	12,000	36,000	0.000011%	0.00044%	No	No
PU Foam Line: Box2			1.49	0.0000410				0.000011%	0.00044%			No	No		
PU Foam Line: Box3			1.49	0.0000410				0.000011%	0.00044%			No	No		
PU Foam Line: Box4			1.49	0.0000410				0.000011%	0.00044%			No	No		
PU Foam Line: Box5			1.49	0.0000410				0.000011%	0.00044%			No	No		
PU Foam Line: Box6			1.49	0.0000410				0.000011%	0.00044%			No	No		
PU Foam Line: Box1	VOC (as aliphatic amines - octadecylamine & C16-18-alkylamines)	0.0165	1.49	0.0000246	0.00	148	3900	0.000801	0.0959	12	36	0.0067%	0.27%	No	No
PU Foam Line: Box2			1.49	0.0000246				0.000801	0.0959			0.0067%	0.27%	No	No
PU Foam Line: Box3			1.49	0.0000246				0.000801	0.0959			0.0067%	0.27%	No	No
PU Foam Line: Box4			1.49	0.0000246				0.000801	0.0959			0.0067%	0.27%	No	No
PU Foam Line: Box5			1.49	0.0000246				0.000801	0.0959			0.0067%	0.27%	No	No
PU Foam Line: Box6			1.49	0.0000246				0.000801	0.0959			0.0067%	0.27%	No	No
SB2	Isocyanate (as NCO)	0.1	2.02	0.000202	0.00	148	3900	0.00329	0.394	0.2	7	1.65%	5.63%	Yes	No
SB7			3.27	0.000327				0.00533	0.638			2.67%	9.11%	Yes	No
PU Foam Line: Box1			1.49	0.000149				0.00296	0.291			1.48%	4.15%	Yes	No
PU Foam Line: Box2			1.49	0.000149				0.00296	0.291			1.48%	4.15%	Yes	No
PU Foam Line: Box3			1.49	0.000149				0.00296	0.291			1.48%	4.15%	Yes	No
PU Foam Line: Box4			1.49	0.000149				0.00296	0.291			1.48%	4.15%	Yes	No
PU Foam Line: Box5			1.49	0.000149				0.00296	0.291			1.48%	4.15%	Yes	No
PU Foam Line: Box6			1.49	0.000149				0.00296	0.291			1.48%	4.15%	Yes	No

Stage one screening continued (combined PCs for common pollutants):

Stacks	Pollutant	PC ^(b) (µg/m ³)		AAD AQS or EAL (µg/m ³)		PC as % of AQS or EAL		PC Significant? ^(f) (>1%) (>10%)	
		LT ^(e)	ST	LT	ST	LT	ST	LT	ST
SB1, SB2, SB7	VOC (as acetone)	3.91	468	18100	362000	0.02%	0.1%	No	No
SB1, SB2, SB7	VOC (as butane)	0.873	210	14500	181000	0.01%	0.1%	No	No
SB2, SB7	VOC (as cyclohexane)	5.18	619	3500	105000	0.1%	0.6%	No	No
SB2, SB7	VOC (as dimethyl ether)	5.18	619	7660	95800	0.1%	0.6%	No	No
SB2, SB7	VOC (as MEK)	0.863	103	6000	89900	0.01%	0.1%	No	No
SB2, SB7	VOC (as ethanol)	0.431	51.6	19200	576000	0.002%	0.01%	No	No
PU Foam Line (Box 1-6)	VOC (as hydrocarbons C11-C12, isoalkanes)	0.00801	0.959	12000	36000	0.0001%	0.003%	No	No
PU Foam Line (Box 1-6)	VOC (amines, C16-18-alkyl - assessed as aliphatic amines)	0.00481	0.575	12	36	0.04%	1.6%	No	No
SB2, SB7	Isocyanate (as NCO)	0.0264	2.78	0.2	7	13.2%	39.6%	Yes	Yes

Stage Two Screening

Stacks and Pollutant	Background (µg/m ³) ^(g)	PEC (µg/m ³) ^(h)	PEC as a % of LT ^(e)	PEC Significant? ⁽ⁱ⁾ (>70%)	ST AQS	ST AQS minus Background	ST PC as % of ST AQS minus Background	ST PC Significant? ⁽ⁱ⁾ (>10%)
					LT ^(e)	LT ^(e)	LT ^(e)	
SB2, SB7 and PU Foam Line (Box 1-6) - Isocyanate (as NCO)	0.0	0.0264	13%	No	7	7	40%	Yes

Notes to H1 Calculation:

- The EA's Air emissions risk assessment for your environmental permit was the guidance used to carry out the assessment.**
- ^(a) SB VOC ELV informed by Process Guidance Note 6/32(11) - *Statutory guidance for adhesive coating*. Foam Line VOC release concentrations evaluated using a conservative 100% mass-balance release model based on total annual VOC throughput of 155.25 kg/yr distributed across Box 1 to Box 6. Individual constituent release concentrations and discharge rates have been derived by scaling the total product baseline by each substance's upper-bound Safety Data Sheet concentration percentage. Isocyanate ELV for all emission points has been informed by Process Guidance Note 6/29(12) - *Statutory Guidance for Di-Isocyanate Processes*.
- ^(b) For the SBs these have been obtained from ECL Emissions Monitoring Survey reports (P6221 R001 - Issued December 2025, see Appendix II of the main report for a copy of the report). Reference conditions = 273K, 101.3kPa, wet gas. For the PU Foam Line stacks, these have been informed by design data assumptions, in the absence of any emissions monitoring data.
- ^(c) The effective height of release should be treated as 0m when the emission is actually released at a point that is less than 3m above the ground or building on which the stack is located or if it is more than 3m above the ground or building but less than the height of the tallest building within a distance that's 5 times 'L' (L being the lowest of either the building height or the greatest width between two points at the same height of the building). Consequently, the effective stack height for each emission point should be treated as 0m.
- ^(d) To ensure a conservative assessment, the individual VOC concentrations identified in the Safety Data Sheets were adjusted using a scaling factor to represent the maximum potential content for each material. For isocyanate (as NCO), the Safety Data Sheet for Thermox 006B states that the raw material contains 50% - 100% hydrophilic aliphatic polyisocyanate. A factor of 0.5 has been applied to this component to account for the worst-case maximum proportion of active reactive -NCO groups by weight typical of modified aliphatic polyisocyanates, rather than assuming the entire polymer chain volatilises as pure monomer. The Safety Data Sheet for Spectex NE 138 states that the raw material contains 51-61% 4,4'-Methylenediphenyl di-isocyanate. A factor of 0.61 has been applied.
- ^(e) Where the process does not operate all the time, annual average figures can be adjusted down. A factor of 0.220 has been applied to the LT PCs to account for the Site's annual operational hours.
- ^(f) If the LT PC is greater than 1% of the LT environmental standard and / or the ST PC is greater than 10% of the ST environmental standard, then further assessment is required (refer to the stage two screening results).
- ^(g) In the absence of any monitored or modelled background data for these pollutants, the ambient concentration is assumed to be 0 µg/m³.
- ^(h) The sum of the LT PC and the background concentration.
- ⁽ⁱ⁾ In accordance with the EA guidance, further assessment is required if the LT PEC is greater than 70% of the LT environmental standard and / or the ST PC is greater than 20% of the ST environmental standard minus twice the LT background concentration. See Section 1.2 of the main report for additional context.