

SAFETY DATA SHEET

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by UK REACH Regulation SI 2019/758

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

1.1 Product identifier

Product identifier : S2030
Product name : SYSTEM 20 FAST HARDENER
Product type : Liquid.
Other means of identification : S2030/1; S2030/25; S2030/5; S2030/M; S2030/S; S2030/SM; S2030/SS
Date of issue/ Date of revision : 14 April 2026
Version : 2.1
Date of previous issue : 10 April 2026

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

Identified uses : Coating component.
Uses advised against : Not for sale to or use by consumers.

1.3 Details of the supplier of the safety data sheet

U-POL LTD,
DENINGTON ROAD,
WELLINGBOROUGH,
NN8 2QH
+44 (0) 1933 230310
sds-competence@axalta.com

e-mail address of person responsible for this SDS : sds-competence@axalta.com

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DE GEER 14,
4004LT TIEL,
NETHERLANDS
+31 20 240 2216
sds-competence@axalta.com

1.4 Emergency telephone number

Supplier

Telephone number : +(44)-870-8200418

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

Classification according to UK CLP/GHS

SECTION 2: Hazards identification

Flam. Liq. 2, H225
 Acute Tox. 4, H332
 Skin Irrit. 2, H315
 Eye Irrit. 2, H319
 Skin Sens. 1, H317
 STOT SE 3, H335
 STOT SE 3, H336
 STOT RE 2, H373
 Aquatic Chronic 3, H412

The product is classified as hazardous according to UK CLP Regulation SI 2019/720 as amended.

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms :



Signal word :

Danger

Contains :

Hexamethylene diisocyanate, oligomers
 Reaction mass of ethylbenzene and xylene butanone

Hazard statements :

H225 - Highly flammable liquid and vapour.
 H315 - Causes skin irritation.
 H317 - May cause an allergic skin reaction.
 H319 - Causes serious eye irritation.
 H332 - Harmful if inhaled.
 H335 - May cause respiratory irritation.
 H336 - May cause drowsiness or dizziness.
 H373 - May cause damage to organs through prolonged or repeated exposure.
 H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention :

P280 - Wear protective gloves. Wear eye or face protection.
 P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 P273 - Avoid release to the environment.
 P260 - Do not breathe vapour.
 P264 - Wash hands thoroughly after handling.

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.

Storage :

Not applicable.

Disposal :

Not applicable.

Supplemental label elements :

EUH204 - Contains isocyanates. May produce an allergic reaction.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles :

Not applicable.

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII :

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

SYSTEM 20 FAST HARDENER

SECTION 2: Hazards identification

Other hazards which do not result in classification : None known.

SECTION 3: Composition/information on ingredients

3.2 Mixtures : Mixture

Product/ingredient name	Identifiers	%	Classification	Type
Hexamethylene diisocyanate, oligomers	REACH #: 01-2119485796-17 EC: 931-274-8 CAS: 28182-81-2	≥25 - ≤50	Acute Tox. 4, H332 Skin Sens. 1, H317 STOT SE 3, H335	[1] [2]
Reaction mass of ethylbenzene and xylene	REACH #: 01-2119539452-40 EC: 905-588-0	≥25 - ≤50	Flam. Liq. 3, H226 Acute Tox. 4, H312 Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 STOT SE 3, H336 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Chronic 3, H412	[1]
butanone	REACH #: 01-2119457290-43 EC: 201-159-0 CAS: 78-93-3	≥10 - ≤25	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336 EUH066	[1] [2]
n-butyl acetate	REACH #: 01-2119485493-29 EC: 204-658-1 CAS: 123-86-4	≤3	Flam. Liq. 3, H226 STOT SE 3, H336 EUH066	[1] [2]
Hydrocarbons, C9, aromatics	REACH #: 01-2119455851-35 EC: 918-668-5	≤3	Flam. Liq. 3, H226 STOT SE 3, H335 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 2, H411 EUH066 See Section 16 for the full text of the H statements declared above.	[1]

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

[1] Substance classified with a physical, health or environmental hazard

[2] Substance with a workplace exposure limit

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

SECTION 4: First aid measures

- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
 pain or irritation
 watering
 redness
- Inhalation** : Adverse symptoms may include the following:
 respiratory tract irritation
 coughing
 nausea or vomiting
 headache
 drowsiness/fatigue
 dizziness/vertigo
 unconsciousness
- Skin contact** : Adverse symptoms may include the following:
 irritation
 redness
- Ingestion** : No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Recommended: alcohol-resistant foam, CO₂, powders, water spray or mist.

Unsuitable extinguishing media : Do not use water jet.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture : Fire will produce dense black smoke. Exposure to decomposition products may cause a health hazard.

Hazardous combustion products : Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen, hydrogen cyanide, monomeric isocyanates.

5.3 Advice for firefighters

Special protective actions for fire-fighters : Cool closed containers exposed to fire with water. Do not release runoff from fire to drains or watercourses.

Special protective equipment for fire-fighters : Appropriate breathing apparatus may be required.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : Exclude sources of ignition and ventilate the area. Avoid breathing vapour or mist. Refer to protective measures listed in sections 7 and 8.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions : Do not allow to enter drains or watercourses. If the product contaminates lakes, rivers, or sewers, inform the appropriate authorities in accordance with local regulations.

6.3 Methods and material for containment and cleaning up

Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Place in a suitable container. The contaminated area should be cleaned immediately with a suitable decontaminant. One possible (flammable) decontaminant comprises (by volume): water (45 parts), ethanol or isopropyl alcohol (50 parts) and concentrated (d: 0,880) ammonia solution (5 parts). A non-flammable alternative is sodium carbonate (5 parts) and water (95 parts). Add the same decontaminant to the remnants and let stand for several days until no further reaction in an unsealed container. Once this stage is reached, close container and dispose of according to local regulations (see section 13).

6.4 Reference to other sections : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

Persons with a history of asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used.

Examination of lung function should be carried out on a regular basis on persons spraying this mixture.

7.1 Precautions for safe handling

SECTION 7: Handling and storage

Prevent the creation of flammable or explosive concentrations of vapours in air and avoid vapour concentrations higher than the occupational exposure limits.
 In addition, the product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Electrical equipment should be protected to the appropriate standard.
 Mixture may charge electrostatically: always use earthing leads when transferring from one container to another. Operators should wear antistatic footwear and clothing and floors should be of the conducting type.
 Care should be taken when re-opening partly-used containers. Precautions should be taken to minimise exposure to atmospheric humidity or water. CO₂ will be formed, which, in closed containers, could result in pressurisation. Keep away from heat, sparks and flame. No sparking tools should be used.
 Avoid contact with skin and eyes. Avoid the inhalation of dust, particulates, spray or mist arising from the application of this mixture. Avoid inhalation of dust from sanding.
 Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Put on appropriate personal protective equipment (see Section 8).
 Never use pressure to empty. Container is not a pressure vessel.
 Always keep in containers made from the same material as the original one.
 Comply with the health and safety at work laws.
 Do not allow to enter drains or watercourses.
Information on fire and explosion protection
 Vapours are heavier than air and may spread along floors. Vapours may form explosive mixtures with air.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations.

Notes on joint storage

Keep away from: oxidising agents, strong alkalis, strong acids.

Additional information on storage conditions

Observe label precautions. Store in a dry, cool and well-ventilated area. Keep away from heat and direct sunlight.

Keep container tightly closed.

Keep away from sources of ignition. No smoking. Prevent unauthorised access. Containers that have been opened must be carefully resealed and kept upright to prevent leakage.

Seveso Directive - Reporting thresholds

Danger criteria

Category	Notification and MAPP threshold	Safety report threshold
P5c	5000 tonnes	50000 tonnes

7.3 Specific end use(s)

Recommendations : Not available.

Industrial sector specific solutions : Not available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
Hexamethylene diisocyanate, oligomers	EH40/2005 WELs (United Kingdom (UK), 1/2020) [isocyanates, all, except methyl isocyanate] Inhalation sensitiser. STEL 15 minutes: 0.07 mg/m ³ (as -NCO). TWA 8 hours: 0.02 mg/m ³ (as -NCO).
butanone	EH40/2005 WELs (United Kingdom (UK), 1/2020) Absorbed through skin. STEL 15 minutes: 899 mg/m ³ . STEL 15 minutes: 300 ppm. TWA 8 hours: 600 mg/m ³ . TWA 8 hours: 200 ppm.
n-butyl acetate	EH40/2005 WELs (United Kingdom (UK), 1/2020) STEL 15 minutes: 966 mg/m ³ .

SECTION 8: Exposure controls/personal protection

STEL 15 minutes: 200 ppm.
TWA 8 hours: 724 mg/m³.
TWA 8 hours: 150 ppm.

Biological exposure indices

Product/ingredient name	Exposure indices
butanone	EH40/2005 BMGVs (United Kingdom (UK), 1/2020) BGV: 70 µmol/l, butan-2-one [in urine]. Sampling time: post shift.

Recommended monitoring procedures : Reference should be made to monitoring standards, such as the following: British Standard BS EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) British Standard BS EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) British Standard BS EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

Product/ingredient name	Result
Hexamethylene diisocyanate, oligomers	DNEL - Workers - Long term - Inhalation 0.5 mg/m ³ <u>Effects</u> : Local
	DNEL - Workers - Short term - Inhalation 1 mg/m ³ <u>Effects</u> : Local
	DNEL - Workers - Long term - Dermal 212 mg/kg bw/day <u>Effects</u> : Systemic
	DNEL - Workers - Long term - Inhalation 221 mg/m ³ <u>Effects</u> : Systemic
Reaction mass of ethylbenzene and xylene	DNEL - Workers - Long term - Inhalation 200.539 ppm <u>Effects</u> : Systemic
	DNEL - General population - Long term - Oral 31 mg/kg bw/day <u>Effects</u> : Systemic
	DNEL - General population - Long term - Inhalation 106 mg/m ³ <u>Effects</u> : Systemic
	DNEL - General population - Long term - Dermal 412 mg/kg bw/day <u>Effects</u> : Systemic
	DNEL - General population - Short term - Inhalation 450 mg/m ³ <u>Effects</u> : Systemic
	DNEL - Workers - Long term - Inhalation 600 mg/m ³ <u>Effects</u> : Systemic
	DNEL - Workers - Short term - Inhalation 900 mg/m ³ <u>Effects</u> : Systemic

SECTION 8: Exposure controls/personal protection

n-butyl acetate

DNEL - Workers - Long term - Dermal

1161 mg/kg bw/day

Effects: Systemic

DNEL - Workers - Short term - Dermal

11 mg/kg bw/day

Effects: Systemic

DNEL - General population - Long term - Oral

2 mg/kg bw/day

Effects: Systemic

DNEL - General population - Short term - Oral

2 mg/kg bw/day

Effects: Systemic

DNEL - General population - Long term - Dermal

3.4 mg/kg bw/day

Effects: Systemic

DNEL - General population - Short term - Dermal

6 mg/kg bw/day

Effects: Systemic

DNEL - Workers - Short term - Dermal

11 mg/kg bw/day

Effects: Systemic

DNEL - General population - Long term - Inhalation

12 mg/m³

Effects: Systemic

DNEL - General population - Long term - Inhalation

35.7 mg/m³

Effects: Local

DNEL - General population - Short term - Inhalation

300 mg/m³

Effects: Local

DNEL - General population - Short term - Inhalation

300 mg/m³

Effects: Systemic

DNEL - Workers - Long term - Inhalation

300 mg/m³

Effects: Local

DNEL - Workers - Short term - Inhalation

600 mg/m³

Effects: Local

DNEL - Workers - Short term - Inhalation

600 mg/m³

Effects: Systemic

DNEL - Workers - Long term - Inhalation

300 mg/m³

Effects: Systemic

Hydrocarbons, C9, aromatics

DNEL - Workers - Long term - Inhalation

151 mg/m³

Effects: Systemic

SECTION 8: Exposure controls/personal protection

DNEL - Workers - Long term - Dermal

12.5 mg/kg bw/day

Effects: Systemic

DNEL - General population - Long term - Inhalation

32 mg/m³

Effects: Systemic

DNEL - General population - Long term - Dermal

7.5 mg/kg bw/day

Effects: Systemic

DNEL - General population - Long term - Oral

7.5 mg/kg bw/day

Effects: Systemic

PNECs

Product/ingredient name

Hexamethylene diisocyanate, oligomers

Result

Marine water

12.7 µg/l

Fresh water

1270 µg/l

Sediment

266700 mg/kg

Soil

53200 mg/kg

Sewage Treatment Plant

38.28 mg/kg

Reaction mass of ethylbenzene and xylene

Fresh water

0.327 mg/l

Marine water

0.327 mg/l

Sewage Treatment Plant

6.58 mg/l

Fresh water sediment

12.46 mg/kg dwt

Marine water sediment

12.46 mg/kg dwt

Soil

2.31 mg/kg

butanone

Fresh water

55.8 mg/l

Sewage Treatment Plant

709 mg/l

Fresh water sediment

284.7 mg/kg

Marine water sediment

284.7 mg/kg

Marine water

SECTION 8: Exposure controls/personal protection

55.8 mg/l

Sewage Treatment Plant

22.5 mg/kg

n-butyl acetate

Soil

0.09 mg/kg

Fresh water

0.18 mg/l

Sewage Treatment Plant

35.6 mg/l

Marine water

0.018 mg/l

Fresh water sediment

0.981 mg/kg

Marine water sediment

0.098 mg/kg

8.2 Exposure controls

Persons with a history of asthma, allergies, chronic or recurrent respiratory disease should not be exposed to any process in which this product is used.

Examination of lung function should be carried out on a regular basis on persons spraying this mixture.

Appropriate engineering controls : Provide adequate ventilation. Where reasonably practicable, this should be achieved by the use of local exhaust ventilation and good general extraction. Air-fed protective respiratory equipment must be worn by the spray operator, even when good ventilation is provided. In other operations, if local exhaust ventilation and good general extraction are not sufficient to maintain concentrations of particulates and solvent vapours below the OEL, suitable respiratory protection must be worn. (See Occupational exposure controls.)

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Use safety eyewear designed to protect against splash of liquids.

Skin protection

Hand protection

There is no one glove material or combination of materials that will give unlimited resistance to any individual or combination of chemicals.

The breakthrough time must be greater than the end use time of the product.

The instructions and information provided by the glove manufacturer on use, storage, maintenance and replacement must be followed.

Gloves should be replaced regularly and if there is any sign of damage to the glove material.

Always ensure that gloves are free from defects and that they are stored and used correctly.

The performance or effectiveness of the glove may be reduced by physical/chemical damage and poor maintenance.

Barrier creams may help to protect the exposed areas of the skin but should not be applied once exposure has occurred.

SECTION 8: Exposure controls/personal protection

Gloves	: Duration / breakthrough time: <1 hour, Glove material: NBR, nitrile rubber, material thickness as splash protection: at least 0.2 mm, (EN374) Glove material: NBR, nitrile rubber Material thickness for short-term contact: at least 0.5 mm, (EN374) The recommendation for the type or types of glove to use when handling this product is based on information from the following source: Expert judgment The user must check that the final choice of type of glove selected for handling this product is the most appropriate and takes into account the particular conditions of use, as included in the user's risk assessment.
Body protection	: Personnel should wear antistatic clothing made of natural fibres or of high-temperature-resistant synthetic fibres.
Other skin protection	: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Respiratory protection	: By spraying: air-fed respirator. By other operations than spraying, in well ventilated areas, air-fed respirators could be replaced by a combination charcoal filter and particulate filter mask.
Environmental exposure controls	: Do not allow to enter drains or watercourses.

SECTION 9: Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

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

Physical state	: Liquid.
Colour	: Transparent.
Odour	: Not available.
Odour threshold	: Not available.
Melting point/freezing point	: Technically not possible to measure
Initial boiling point and boiling range	: 78.3 to 142°C (172.9 to 287.6°F)
Flammability (solid, gas)	: Not available.
Upper/lower flammability or explosive limits	: Lower: 1% Upper: 11.5% Not available.
Flash point	: Closed cup: -1.833°C (28.7°F)
Auto-ignition temperature	: 280°C (536°F)
Decomposition temperature	: Not applicable.
pH	: Not applicable.
Viscosity	: Dynamic (room temperature): Not available. Kinematic (room temperature): Not available. Kinematic (40°C): Not available.
Solubility in water	: Not available.
Miscible with water	: Yes.
Partition coefficient: n-octanol/ water	: Not applicable.
Vapour pressure	: 2.9 kPa (21.65 mm Hg)
Relative density	: Not available.
Density	: 0.935 g/cm ³
Vapour density	: Not available.

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SECTION 9: Physical and chemical properties

Explosive properties	: Not available.
Oxidising properties	: Not available.
Weight volatiles	: 63.5 % (w/w)
VOC content	: (2010/75/EU)

Particle characteristics

Median particle size : Not applicable.

9.2 Other information

9.2.1 Information with regard to physical hazard classes

Further information Not available.

9.2.2 Other safety characteristics

Miscible with water : Yes.

Further information Not available.

room temperature (=20°C)

SECTION 10: Stability and reactivity

10.1 Reactivity : The product reacts slowly with water, resulting in the production of carbon dioxide.

10.2 Chemical stability : Stable under recommended storage and handling conditions (see Section 7).

10.3 Possibility of hazardous reactions : In closed containers, pressure build-up could result in distortion, expansion and, in extreme cases, bursting of the container.

10.4 Conditions to avoid : In a fire, hazardous decomposition products may be produced.

10.5 Incompatible materials : Keep away from: oxidising agents, strong alkalis, strong acids, amines, alcohols, water. Uncontrolled exothermic reactions occur with amines and alcohols.

10.6 Hazardous decomposition products : Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen, hydrogen cyanide, monomeric isocyanates.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result
Hexamethylene diisocyanate, oligomers	Rat - Inhalation - LC50 Dusts and mists 18500 mg/m ³ [1 hours]
Reaction mass of ethylbenzene and xylene	Rat - Oral - LD50 3523 to 4000 mg/kg
	Rabbit - Dermal - LD50 121236 mg/kg
	Rat - Inhalation - LC50 Vapour 6350 to 6700 ppm [4 hours]
butanone	Rabbit - Dermal - LD50

SECTION 11: Toxicological information

6480 mg/kg

Rat - Oral - LD50

2737 mg/kg

n-butyl acetate

Rat - Oral - LD50

10768 mg/kg

Toxic effects: Behavioral - Somnolence (general depressed activity) Lung, Thorax, or Respiration - Other changes Liver - Other changes

Rabbit - Dermal - LD50

>17600 mg/kg

Rat - Inhalation - LC50 Vapour

21.1 mg/l [4 hours]

Hydrocarbons, C9, aromatics

Rat - Female - Oral - LD50

3492 mg/kg

OECD 401

Rabbit - Dermal - LD50

>3160 mg/kg

OECD 402

Conclusion/Summary [Product] : Not available.

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
mixture	N/A	3081.2	N/A	15.2	4.1
Hexamethylene diisocyanate, oligomers	N/A	N/A	N/A	11	1.5
Reaction mass of ethylbenzene and xylene	N/A	1100	N/A	11	N/A
butanone	2737	6480	N/A	N/A	N/A
n-butyl acetate	10768	N/A	N/A	21.1	N/A
Hydrocarbons, C9, aromatics	3492	N/A	N/A	N/A	N/A

Skin corrosion/irritation

Product/ingredient name

butanone

Result

Rabbit - Skin - Mild irritant

Duration of treatment/exposure: 24 hours

Amount/concentration applied: 14 mg

Rabbit - Skin - Mild irritant

Duration of treatment/exposure: 24 hours

Amount/concentration applied: 402 mg

Rabbit - Skin - Moderate irritant

Duration of treatment/exposure: 24 hours

Amount/concentration applied: 500 mg

Conclusion/Summary [Product] : Not available.

Serious eye damage/eye irritation

Not available.

Conclusion/Summary [Product] : Not available.

SECTION 11: Toxicological information**Respiratory corrosion/irritation**

Not available.

Conclusion/Summary [Product] : Not available.**Respiratory or skin sensitization****Product/ingredient name**

Hexamethylene diisocyanate, oligomers

Result**Mouse - skin**

OECD [Skin Sensitization: Local Lymph Node Assay]

Result: Sensitising**Skin****Conclusion/Summary [Product]** : Not available.**Respiratory****Conclusion/Summary [Product]** : Not available.**Germ cell mutagenicity**

Not available.

Conclusion/Summary [Product] : Not available.**Carcinogenicity**

Not available.

Conclusion/Summary [Product] : Not available.**Reproductive toxicity**

Not available.

Conclusion/Summary [Product] : Not available.**Specific target organ toxicity (single exposure)****Product/ingredient name**Hexamethylene diisocyanate, oligomers
Reaction mass of ethylbenzene and xylene**Result**

STOT SE 3, H335 (Respiratory tract irritation)

STOT SE 3, H335 (Respiratory tract irritation)

STOT SE 3, H336 (Narcotic effects)

butanone

STOT SE 3, H336 (Narcotic effects)

n-butyl acetate

STOT SE 3, H336 (Narcotic effects)

Hydrocarbons, C9, aromatics

STOT SE 3, H335 (Respiratory tract irritation)

STOT SE 3, H336 (Narcotic effects)

Specific target organ toxicity (repeated exposure)**Product/ingredient name**

Reaction mass of ethylbenzene and xylene

Result

STOT RE 2, H373

Aspiration hazard**Product/ingredient name**Reaction mass of ethylbenzene and xylene
Hydrocarbons, C9, aromatics**Result**

ASPIRATION HAZARD - Category 1

ASPIRATION HAZARD - Category 1

SECTION 11: Toxicological information

Information on likely routes of exposure

Not available.

Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : Harmful if inhaled. Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.
- Skin contact** : Causes skin irritation. May cause an allergic skin reaction.
- Ingestion** : Can cause central nervous system (CNS) depression.

Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness
- Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
- Ingestion** : No specific data.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Short term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

Long term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

Potential chronic health effects

Not available.

Conclusion/Summary [Product] : Not available.

- General** : May cause damage to organs through prolonged or repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- Reproductive toxicity** : No known significant effects or critical hazards.

Other information

Not available.

SECTION 12: Ecological information**12.1 Toxicity****Product/ingredient name**

Hexamethylene diisocyanate, oligomers

Result**Acute - LC50**Fish - *danio rerio*
>100 mg/l [96 hours]**Acute - EC50**Daphnia - *Daphnia magna*
>100 mg/l [48 hours]

Reaction mass of ethylbenzene and xylene

Acute - LC50OECD 203
Fish - Trout - *Oncorhynchus mykiss*
2.6 mg/l [96 hours]**Acute - LC50**OECD 202
Daphnia - Daphnia - *Daphnia magna*
1 mg/l [24 hours]**Acute - EC50**OECD 201
Algae - Algae - *Selenastrum capricornutum*
2.2 mg/l [73 hours]**Chronic - NOEC**OECD 301F
Micro-organism - Activated sludge - *Activated sludge*
16 mg/l [28 days]

butanone

Acute - EC50 - Fresh waterDaphnia - Water flea - *Daphnia magna* - Larvae
Age: <24 hours
5091 mg/l [48 hours]
Effect: Intoxication**Acute - LC50 - Fresh water**Fish - Fathead minnow - *Pimephales promelas*
Age: 31 days; Size: 22 mm; Weight: 0.167 g
3220 mg/l [96 hours]
Effect: Mortality**Acute - EC50 - Marine water**Algae - Diatom - *Skeletonema costatum*
>500 mg/l [96 hours]
Effect: Population

n-butyl acetate

Acute - LC50 - Marine waterFish - Inland silverside - *Menidia beryllina*
185 ppm [96 hours]
Effect: Mortality

Hydrocarbons, C9, aromatics

Acute - LC50OECD 203
Fish - Trout - *Oncorhynchus mykiss*
9.2 mg/l [96 hours]**Conclusion/Summary [Product]** : Not available.**12.2 Persistence and degradability****Product/ingredient name****Result**

SECTION 12: Ecological information

Hexamethylene diisocyanate, oligomers

Aerobic

1% [28 days] - Not readily

Conclusion/Summary [Product] : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Hexamethylene diisocyanate, oligomers	-	-	Not readily

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Hexamethylene diisocyanate, oligomers	5.54	367.7	Low
Reaction mass of ethylbenzene and xylene	3.16	-	Low
butanone	0.3	-	Low
n-butyl acetate	2.3	-	Low

12.4 Mobility in soil

Soil/water partition coefficient : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
Hexamethylene diisocyanate, oligomers	No	N/A	No	No	No	N/A	No
Reaction mass of ethylbenzene and xylene	N/A	N/A	N/A	Yes	N/A	N/A	N/A
butanone	No	N/A	N/A	No	N/A	N/A	N/A
n-butyl acetate	No	N/A	N/A	No	N/A	N/A	N/A
Hydrocarbons, C9, aromatics	No	N/A	N/A	No	N/A	N/A	N/A

12.6 Other adverse effects : No known significant effects or critical hazards.

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste : The classification of the product may meet the criteria for a hazardous waste.

Packaging

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SECTION 13: Disposal considerations

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Type of packaging	Waste catalogue
	15 01 10* packaging containing residues of or contaminated by hazardous substances

Special precautions : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapour from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number	UN1263	UN1263	UN1263	UN1263
14.2 UN proper shipping name	PAINT RELATED MATERIAL	PAINT RELATED MATERIAL	PAINT RELATED MATERIAL	PAINT RELATED MATERIAL
14.3 Transport hazard class(es)	3 	3 	3 	3 
14.4 Packing group	II	II	II	II
14.5 Environmental hazards	No.	Yes.	No.	No.

Additional information

ADR/RID : **Special provisions** 640 (C)
Tunnel code (D/E)

ADN : The product is only regulated as an environmentally hazardous substance when transported in tank vessels.
Special provisions 640 (C)

14.6 Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Transport in bulk according to IMO instruments : Not available.

SECTION 15: Regulatory information

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

UK (GB)/REACH

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

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SECTION 15: Regulatory information

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Product/ingredient name	%	Designation [Usage]
mixture	≥90	3

Labelling : Not applicable.

Seveso Directive

This product is controlled under the Seveso Directive.

Danger criteria

Category
P5c

National regulations

Product/ingredient name	List name	Name on list	Classification	Notes

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

15.2 Chemical safety assessment : This product contains substances for which Chemical Safety Assessments are still required.

SECTION 16: Other information

🔍 Indicates information that has changed from previously issued version.

Abbreviations and acronyms : ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
 ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
 ATE = Acute Toxicity Estimate
 GB CLP = UK CLP (EC No 1272/2008) on the Classification, Labelling and Packaging of Substances and Mixtures as amended by (EU Exit) Regulations 2019 No. 720 and amendments
 DMEL = Derived Minimal Effect Level
 DNEL = Derived No Effect Level
 EUH statement = GB CLP-specific Hazard statement
 IATA = International Air Transport Association
 IMDG = International Maritime Dangerous Goods
 IMO = International Maritime Organization
 N/A = Not available
 PBT = Persistent, Bioaccumulative and Toxic
 PNEC = Predicted No Effect Concentration
 RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
 RRN = REACH Registration Number
 SGG = Segregation Group
 vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification

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SECTION 16: Other information

Classification	Justification
Flam. Liq. 2, H225 Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 STOT SE 3, H335 STOT SE 3, H336 STOT RE 2, H373 Aquatic Chronic 3, H412	On basis of test data Calculation method Calculation method Calculation method Calculation method Calculation method Calculation method Calculation method Calculation method Calculation method

Full text of abbreviated H statements

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
EUH066	Repeated exposure may cause skin dryness or cracking.

Full text of classifications

Acute Tox. 4	ACUTE TOXICITY - Category 4
Aquatic Chronic 2	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2
Aquatic Chronic 3	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3
Asp. Tox. 1	ASPIRATION HAZARD - Category 1
Eye Irrit. 2	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Flam. Liq. 2	FLAMMABLE LIQUIDS - Category 2
Flam. Liq. 3	FLAMMABLE LIQUIDS - Category 3
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
Skin Sens. 1	SKIN SENSITISATION - Category 1
STOT RE 2	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2
STOT SE 3	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3

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SECTION 16: Other information

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