

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Commission Regulation (EU) 2020/878

SAFETY DATA SHEET

HB230 HARDENER

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

1.1 Product identifier

Product name : HB230 HARDENER
SDS code : 21230000D

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

Identified uses
Paint. Professional use Industrial use
Uses advised against
All other uses

Product use : Solvent borne primer

1.3 Details of the supplier of the safety data sheet

MAPAERO SAS
10, Avenue de la Rijole CS30098
09103 PAMIERS Cedex
France

e-mail address of person responsible for this SDS : PSRA_PAMIERS@akzonobel.com

1.4 Emergency telephone number

National advisory body/Poison Center

Telephone number : +33 (0)1 40 05 48 48

Supplier

Telephone number : +33 (0)5 34 01 34 01
+33 (0)5 61 60 23 30

Hours of operation :

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

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

Flam. Liq. 3, H226
Acute Tox. 4, H332
Skin Irrit. 2, H315
Eye Dam. 1, H318
Skin Sens. 1, H317
Carc. 2, H351
STOT SE 3, H335
STOT RE 2, H373

Date of issue/Date of revision

: 1-10-2022

Version : 1

Date of previous issue

: No previous validation

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SECTION 2: Hazards identification

Asp. Tox. 1, H304

Aquatic Chronic 3, H412

The product is classified as hazardous according to Regulation (EC) 1272/2008 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

Hazard statements

: Flammable liquid and vapor.
 May be fatal if swallowed and enters airways.
 Causes skin irritation.
 May cause an allergic skin reaction.
 Causes serious eye damage.
 Harmful if inhaled.
 May cause respiratory irritation.
 Suspected of causing cancer.
 May cause damage to organs through prolonged or repeated exposure.
 Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention

: Obtain special instructions before use. Wear protective gloves, protective clothing and eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Avoid release to the environment. Do not breathe vapor. Wash hands thoroughly after handling.

Response

: IF exposed or concerned: Get medical advice or attention. IF INHALED: Call a POISON CENTER or doctor if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER or doctor. Do NOT induce vomiting. Take off contaminated clothing and wash it before reuse. IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice or attention. 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 or doctor.

Storage

: Store in a well-ventilated place. Keep container tightly closed. Keep cool.

Disposal

: Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazardous ingredients

: Reaction mass of ethylbenzene and xylene
 butan-1-ol
 4-methylpentan-2-one
 3,6-diazaoctanethylenediamin
 2,2'-iminodiethylamine

Supplemental label elements

: Not applicable.

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

: Not applicable.

Special packaging requirements

Containers to be fitted with child-resistant fastenings

: Not applicable.

SECTION 2: Hazards identification

Tactile warning of danger : 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.

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

SECTION 3: Composition/information on ingredients

3.2 Mixtures : Mixture

Product/ingredient name	Identifiers	%	Regulation (EC) No. 1272/2008 [CLP]	Type
Reaction mass of ethylbenzene and xylene	REACH #: 01-2119488216-32 EC: 905-588-0	≥10 - ≤25	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 RE 2, H373 Asp. Tox. 1, H304 Aquatic Chronic 3, H412	[1] [2]
1-methoxy-2-propanol	REACH #: 01-2119457435-35 EC: 203-539-1 CAS: 107-98-2 Index: 603-064-00-3	≤10	Flam. Liq. 3, H226 STOT SE 3, H336	[1] [2]
butan-1-ol	REACH #: 01-2119484630-38 EC: 200-751-6 CAS: 71-36-3 Index: 603-004-00-6	≤5	Flam. Liq. 3, H226 Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 STOT SE 3, H336	[1] [2]
4-methylpentan-2-one	EC: 203-550-1 CAS: 108-10-1 Index: 606-004-00-4	≤4	Flam. Liq. 2, H225 Acute Tox. 4, H332 Eye Irrit. 2, H319 Carc. 2, H351 STOT SE 3, H336 EUH066	[1] [2]
3,6-diazaoctanethylenediamin	EC: 203-950-6 CAS: 112-24-3 Index: 612-059-00-5	≤3	Acute Tox. 4, H312 Skin Corr. 1B, H314 Skin Sens. 1, H317 Aquatic Chronic 3, H412	[1]
2,2'-iminodiethylamine	REACH #: 01-2119473793-27 EC: 203-865-4 CAS: 111-40-0 Index: 612-058-00-X	≤0.3	Acute Tox. 4, H302 Acute Tox. 4, H312 Acute Tox. 2, H330 Skin Corr. 1B, H314 Skin Sens. 1, H317 STOT SE 3, H335 See Section 16 for the full text of the H statements declared above.	[1] [2]

SECTION 3: Composition/information on ingredients

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 health or environmental hazard
- [2] Substance with a workplace exposure limit
- [3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
- [4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII
- [5] Substance of equivalent concern
- [6] Additional disclosure due to company policy

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

SECTION 4: First aid measures

4.1 Description of first aid measures

- Eye contact** : Get medical attention immediately. Call a poison center or physician. 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. Chemical burns must be treated promptly by a physician.
- Inhalation** : Get medical attention immediately. Call a poison center or physician. 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. 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** : Get medical attention immediately. Call a poison center or physician. 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. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a 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

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SECTION 4: First aid measures

There are no data available on the mixture itself. The mixture has been assessed following the conventional method of the CLP Regulation (EC) No 1272/2008 and is classified for toxicological properties accordingly. See Sections 2 and 3 for details.

Exposure to component solvent vapor concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness.

Solvents may cause some of the above effects by absorption through the skin. Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption through the skin.

If splashed in the eyes, the liquid may cause irritation and reversible damage.

Ingestion may cause nausea, diarrhea and vomiting.

This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Contains 3,6-diazaoctanethylenediamin, 2,2'-iminodiethylamine. May produce an allergic reaction.

Over-exposure signs/symptoms

Eye contact	: Adverse symptoms may include the following: pain watering redness
Inhalation	: Adverse symptoms may include the following: respiratory tract irritation coughing
Skin contact	: Adverse symptoms may include the following: pain or irritation redness blistering may occur
Ingestion	: Adverse symptoms may include the following: stomach pains nausea or vomiting

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	: Use dry chemical, CO ₂ , water spray (fog) or foam.
Unsuitable extinguishing media	: Do not use water jet.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture	: Flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
Hazardous combustion products	: Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides

SECTION 5: Firefighting measures

5.3 Advice for firefighters

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized 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

- : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

6.3 Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. 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. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product.

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).

7.1 Precautions for safe handling

SECTION 7: Handling and storage

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not swallow. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Seveso Directive - Reporting thresholds

Danger criteria

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

7.3 Specific end use(s)

- Recommendations** : Not available.
- Industrial sector specific solutions** : Not available.

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. Information is provided based on typical anticipated uses of the product. Additional measures might be required for bulk handling or other uses that could significantly increase worker exposure or environmental releases.

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
Reaction mass of ethylbenzene and xylene	Ministry of Labor (France, 3/2020). Absorbed through skin. Notes: Binding regulatory limit values (article R. 4412-149 of the Labor Code) STEL: 442 mg/m ³ 15 minutes. Form: Risk for sensitisation STEL: 100 ppm 15 minutes. Form: Risk for sensitisation TWA: 221 mg/m ³ 8 hours. Form: Risk for sensitisation TWA: 50 ppm 8 hours. Form: Risk for sensitisation
1-methoxy-2-propanol	Ministry of Labor (France, 3/2020). Absorbed through skin. Notes: Binding regulatory limit values (article R. 4412-149 of

Date of issue/Date of revision : 1-10-2022 **Version** : 1

Date of previous issue : No previous validation 7/20

SECTION 8: Exposure controls/personal protection

butan-1-ol	<p>the Labor Code) STEL: 375 mg/m³ 15 minutes. Form: Risk for sensitisation STEL: 100 ppm 15 minutes. Form: Risk for sensitisation TWA: 188 mg/m³ 8 hours. Form: Risk for sensitisation TWA: 50 ppm 8 hours. Form: Risk for sensitisation Ministry of Labor (France, 3/2020). Notes: Indicative limit values (circular) STEL: 150 mg/m³ 15 minutes. Form: Risk for sensitisation STEL: 50 ppm 15 minutes. Form: Risk for sensitisation</p>
4-methylpentan-2-one	<p>Ministry of Labor (France, 3/2020). Notes: Binding regulatory limit values (article R. 4412-149 of the Labor Code) STEL: 208 mg/m³ 15 minutes. Form: Risk for sensitisation STEL: 50 ppm 15 minutes. Form: Risk for sensitisation TWA: 83 mg/m³ 8 hours. Form: Risk for sensitisation TWA: 20 ppm 8 hours. Form: Risk for sensitisation</p>
2,2'-iminodiethylamine	<p>Ministry of Labor (France, 3/2020). Skin sensitizer. Notes: Indicative limit values (circular) TWA: 4 mg/m³ 8 hours. Form: Risk for sensitisation TWA: 1 ppm 8 hours. Form: Risk for sensitisation</p>

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard 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	Type	Exposure	Value	Population	Effects
Reaction mass of ethylbenzene and xylene	DNEL	Long term Oral	1.6 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	14.8 mg/m ³	General population	Systemic
	DNEL	Long term Inhalation	77 mg/m ³	Workers	Systemic
	DNEL	Long term Dermal	108 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	180 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Inhalation	289 mg/m ³	Workers	Local
	DNEL	Short term Inhalation	289 mg/m ³	Workers	Systemic
1-methoxy-2-propanol	DNEL	Long term Oral	33 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	43.9 mg/m ³	General population	Systemic
	DNEL	Long term Dermal	78 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	183 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	369 mg/m ³	Workers	Systemic
	DNEL	Short term	553.5 mg/	Workers	Local

SECTION 8: Exposure controls/personal protection

butan-1-ol	DNEL	Inhalation Short term	m ³ 553.5 mg/ m ³	Workers	Systemic
	DNEL	Inhalation Long term Oral	3.125 mg/ kg bw/day	General population	Systemic
	DNEL	Inhalation Long term	55 mg/m ³	General population	Local
4-methylpentan-2-one	DNEL	Inhalation Long term	310 mg/m ³	Workers	Local
	DNEL	Inhalation Long term Oral	4.2 mg/kg bw/day	General population	Systemic
	DNEL	Dermal Long term	4.2 mg/kg bw/day	General population	Systemic
	DNEL	Dermal Long term	11.8 mg/ kg bw/day	Workers	Systemic
	DNEL	Inhalation Long term	14.7 mg/m ³	General population	Local
	DNEL	Inhalation Long term	14.7 mg/m ³	General population	Systemic
	DNEL	Inhalation Long term	83 mg/m ³	Workers	Local
	DNEL	Inhalation Long term	83 mg/m ³	Workers	Systemic
	DNEL	Inhalation Short term	155.2 mg/ m ³	General population	Local
	DNEL	Inhalation Short term	155.2 mg/ m ³	General population	Systemic
2,2'-iminodiethylamine	DNEL	Inhalation Short term	208 mg/m ³	Workers	Local
	DNEL	Inhalation Short term	208 mg/m ³	Workers	Systemic
	DNEL	Inhalation Long term	0.87 mg/m ³	Workers	Local
	DNEL	Inhalation Short term	2.6 mg/m ³	Workers	Local
	DNEL	Inhalation Long term	4.6 mg/m ³	General population	Systemic
	DNEL	Dermal Short term	4.88 mg/ kg bw/day	General population	Systemic
	DNEL	Dermal Long term	4.88 mg/ kg bw/day	General population	Systemic
	DNEL	Dermal Long term	11.4 mg/ kg bw/day	Workers	Systemic
	DNEL	Inhalation Long term	15.4 mg/m ³	Workers	Systemic
	DNEL	Inhalation Short term	27.5 mg/m ³	General population	Systemic
DNEL	Inhalation Short term	92.1 mg/m ³	Workers	Systemic	

PNECs

No PNECs available.

8.2 Exposure controls

Appropriate engineering controls

: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Individual protection measures

Date of issue/Date of revision

: 1-10-2022

Version : 1

Date of previous issue

: No previous validation

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SECTION 8: Exposure controls/personal protection

- 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** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- When prolonged or frequently repeated contact may occur, a glove with a protection class of 6 (breakthrough time >480 minutes according to EN374) is recommended. Recommended gloves: Viton ® or Nitrile, thickness ≥ 0.38 mm. When only brief contact is expected, a glove with protection class of 2 or higher (breakthrough time >30 minutes according to EN374) is recommended. Recommended gloves: Nitrile, thickness ≥ 0.12 mm. Gloves should be replaced regularly and if there is any sign of damage to the glove material.
- The performance or effectiveness of the glove may be reduced by physical/chemical damage and poor maintenance.
- 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** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves. Refer to European Standard EN 1149 for further information on material and design requirements and test methods.
- 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** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	: Liquid.
Color	: Colorless.
Odor	: Characteristic.
Odor threshold	: Not available.
pH	: Not available.
Melting point/freezing point	: Not available.
Initial boiling point and boiling range	: Not available.
Flash point	: Closed cup: 24°C
Evaporation rate	: Not available.
Flammability (solid, gas)	: Not available.
Upper/lower flammability or explosive limits	: Not available.
Vapor pressure	: Not available.
Vapor density	: Highest known value: 5.04 (Air = 1) (3,6-diazaoctanethylenediamin). Weighted average: 2.4 (Air = 1)
Density	: 0.924 g/cm ³
Solubility(ies)	: Insoluble in the following materials: cold water.
Partition coefficient: n-octanol/ water	: Not available.
Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.
Viscosity	: Kinematic (room temperature): 0.11 cm ² /s Kinematic (40°C): 0.06 cm ² /s

SECTION 10: Stability and reactivity

10.1 Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability	: The product is stable.
10.3 Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	: Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
10.5 Incompatible materials	: Reactive or incompatible with the following materials: oxidizing materials
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 toxicological effects****Acute toxicity**

Product/ingredient name	Result	Species	Dose	Exposure	
Reaction mass of ethylbenzene and xylene 1-methoxy-2-propanol	LC50 Inhalation Gas.	Rat	5000 ppm	4 hours	
	LC50 Inhalation Gas.	Rat	10000 ppm	5 hours	
	LD50 Dermal	Rabbit	13 g/kg	-	
	LD50 Intraperitoneal	Rat	3720 mg/kg	-	
	LD50 Intravenous	Mouse	5300 mg/kg	-	
	LD50 Intravenous	Rabbit	1200 mg/kg	-	
	LD50 Intravenous	Rat	4200 mg/kg	-	
	LD50 Oral	Mouse	11700 mg/kg	-	
	LD50 Oral	Rabbit	5700 mg/kg	-	
	LD50 Oral	Rat	6600 mg/kg	-	
	LD50 Subcutaneous	Rabbit	5 g/kg	-	
	LD50 Subcutaneous	Rat	7800 mg/kg	-	
	butan-1-ol	LC50 Inhalation Vapor	Rat	24000 mg/m ³	4 hours
		LD50 Dermal	Rabbit	3400 mg/kg	-
LD50 Intraperitoneal		Mouse	254 mg/kg	-	
LD50 Intraperitoneal		Rat	200 mg/kg	-	
LD50 Intravenous		Mouse	377 mg/kg	-	
LD50 Intravenous		Rat	310 mg/kg	-	
LD50 Oral		Mouse	100 mg/kg	-	
LD50 Oral		Rabbit	3484 mg/kg	-	
LD50 Oral		Rabbit	3400 mg/kg	-	
LD50 Oral		Rat	0.79 g/kg	-	
LD50 Oral		Rat	4.36 g/kg	-	
LD50 Oral		Rat	790 mg/kg	-	
LD50 Subcutaneous		Mouse	3200 mg/kg	-	
4-methylpentan-2-one		LD50 Intraperitoneal	Guinea pig	800 mg/kg	-
	LD50 Intraperitoneal	Mouse	268 mg/kg	-	
	LD50 Intraperitoneal	Rat	400 mg/kg	-	
	LD50 Oral	Guinea pig	1600 mg/kg	-	
	LD50 Oral	Mouse	1900 mg/kg	-	
	LD50 Oral	Mouse	2850 mg/kg	-	
	LD50 Oral	Rat	2080 mg/kg	-	
	LD50 Oral	Rat	4600 mg/kg	-	
	3,6-diazaoctanethylenediamin	LD50 Dermal	Rabbit	805 mg/kg	-
		LD50 Intraperitoneal	Mouse	468 mg/kg	-
LD50 Intravenous		Mouse	350 mg/kg	-	
LD50 Oral		Mouse	38.5 mg/kg	-	
LD50 Oral		Rabbit	5500 mg/kg	-	
2,2'-iminodiethylamine	LD50 Oral	Rat	2500 mg/kg	-	
	LD50 Dermal	Guinea pig	170 uL/kg	-	
	LD50 Dermal	Rabbit	1090 mg/kg	-	
	LD50 Intraperitoneal	Mouse	71 mg/kg	-	
	LD50 Intraperitoneal	Rat	74 mg/kg	-	
	LD50 Oral	Rat	1080 mg/kg	-	
	LD50 Route of exposure unreported	Guinea pig	600 mg/kg	-	
	LD50 Route of exposure unreported	Mouse	970 mg/kg	-	
	LD50 Route of exposure unreported	Rabbit	970 mg/kg	-	
LD50 Route of exposure unreported	Rat	970 mg/kg	-		

Conclusion/Summary : Not available.**Irritation/Corrosion**

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Date of previous issue

: No previous validation

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Product/ingredient name	Result	Species	Score	Exposure	Observation
Reaction mass of ethylbenzene and xylene	Eyes - Mild irritant	Rabbit	-	87 mg	-
	Eyes - Severe irritant	Rabbit	-	24 hours 5 mg	-
	Skin - Mild irritant	Rat	-	8 hours 60 UI	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 mg	-
1-methoxy-2-propanol	Skin - Moderate irritant	Rabbit	-	100 %	-
	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
butan-1-ol	Skin - Mild irritant	Rabbit	-	500 mg	-
	Eyes - Severe irritant	Rabbit	-	24 hours 2 mg	-
4-methylpentan-2-one	Eyes - Severe irritant	Rabbit	-	0.005 MI	-
	Eyes - Severe irritant	Rabbit	-	1.62 mg	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 mg	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 100 UI	-
3,6-diazaoctanethylenediamin	Eyes - Severe irritant	Rabbit	-	40 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
2,2'-iminodiethylamine	Eyes - Moderate irritant	Rabbit	-	24 hours 20 mg	-
	Eyes - Severe irritant	Rabbit	-	49 mg	-
	Skin - Severe irritant	Rabbit	-	24 hours 5 mg	-
2,2'-iminodiethylamine	Skin - Severe irritant	Rabbit	-	490 mg	-
	Skin - Moderate irritant	Rabbit	-	500 mg	-

Conclusion/Summary : Not available.

Sensitization

Conclusion/Summary : Not available.

Mutagenicity

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
Reaction mass of ethylbenzene and xylene	Category 3	-	Respiratory tract irritation
1-methoxy-2-propanol	Category 3	-	Narcotic effects
butan-1-ol	Category 3	-	Respiratory tract irritation
4-methylpentan-2-one	Category 3	-	Narcotic effects
2,2'-iminodiethylamine	Category 3	-	Narcotic effects
	Category 3	-	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

SECTION 11: Toxicological information

Product/ingredient name	Category	Route of exposure	Target organs
Reaction mass of ethylbenzene and xylene	Category 2	-	-

Aspiration hazard

Product/ingredient name	Result
Reaction mass of ethylbenzene and xylene	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Causes serious eye damage.
Inhalation : Harmful if inhaled. May cause respiratory irritation.
Skin contact : Causes skin irritation. May cause an allergic skin reaction.
Ingestion : May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing

Skin contact : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur

Ingestion : Adverse symptoms may include the following:
stomach pains
nausea or vomiting

Delayed and immediate effects and also 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 : 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 : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

SECTION 11: Toxicological information**Reproductive toxicity** : No known significant effects or critical hazards.**Other information** : Not available.**SECTION 12: Ecological information****12.1 Toxicity**

There are no data available on the mixture itself.
Do not allow to enter drains or watercourses.

The mixture has been assessed following the summation method of the CLP Regulation (EC) No 1272/2008 and is classified for eco-toxicological properties accordingly. See Sections 2 and 3 for details.

Product/ingredient name	Result	Species	Exposure
Reaction mass of ethylbenzene and xylene butan-1-ol	Acute LC50 13400 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute EC50 1983 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 2300000 µg/l Marine water	Fish - Alburnus alburnus	96 hours
	Acute LC50 1910000 µg/l Fresh water	Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
	Acute LC50 1940000 µg/l Fresh water	Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
4-methylpentan-2-one	Acute LC50 1730000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute LC50 505000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute LC50 540000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute LC50 537000 µg/l Fresh water	Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
	Chronic NOEC 78 mg/l Fresh water	Daphnia - Daphnia magna	21 days
Chronic NOEC 168 mg/l Fresh water	Fish - Pimephales promelas - Embryo	33 days	
3,6-diazaoctanethylenediamin	Acute EC50 3700 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
2,2'-iminodiethylamine	Acute LC50 33900 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute EC50 345600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute LC50 53500 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 1014000 µg/l Fresh water	Fish - Poecilia reticulata	96 hours

Conclusion/Summary : Not available.**12.2 Persistence and degradability****Conclusion/Summary** : Not available.**12.3 Bioaccumulative potential**

Product/ingredient name	LogP _{ow}	BCF	Potential
Reaction mass of ethylbenzene and xylene	3.12	8.1 to 25.9	low
1-methoxy-2-propanol	<1	-	low
butan-1-ol	1	-	low
4-methylpentan-2-one	1.9	-	low
3,6-diazaoctanethylenediamin	-1.66 to -1.4	-	low
2,2'-iminodiethylamine	-5.58	2.8 to 6.3	low

12.4 Mobility in soil**Date of issue/Date of revision** : 1-10-2022**Version** : 1**Date of previous issue** : No previous validation

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SECTION 12: Ecological information

- Soil/water partition coefficient (K_{oc})** : Not available.
- Mobility** : Not available.

12.5 Results of PBT and vPvB assessment

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

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 minimized 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.
- Disposal considerations** : Do not allow to enter drains or watercourses. Dispose of according to all federal, state and local applicable regulations. If this product is mixed with other wastes, the original waste product code may no longer apply and the appropriate code should be assigned. For further information, contact your local waste authority.

European waste catalogue (EWC)




The European Waste Catalogue classification of this product, when disposed of as waste, is:

Waste code	Waste designation
EWC 08 01 11*	waste paint and varnish containing organic solvents or other hazardous substances

Packaging

- Methods of disposal** : The generation of waste should be avoided or minimized wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.
- Disposal considerations** : Using information provided in this safety data sheet, advice should be obtained from the relevant waste authority on the classification of empty containers. Empty containers must be scrapped or reconditioned. Dispose of containers contaminated by the product in accordance with local or national legal provisions.
- 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. Vapor 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 spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

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

Additional information

ADR/RID : **Tunnel code** (D/E)
 IMDG : **Emergency schedules** F-E, _S-E_

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 applicable.

SECTION 15: Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorization

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Other EU regulations

VOC : The provisions of Directive 2004/42/EC on VOC apply to this product. Refer to the product label and/or technical data sheet for further information.

VOC for Ready-for-Use Mixture : Not applicable.

Industrial emissions (integrated pollution prevention and control) - Air : Not listed

SECTION 15: Regulatory information

Industrial emissions (integrated pollution prevention and control) - Water : Not listed

Ozone depleting substances (1005/2009/EU)

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

Seveso Directive

This product is controlled under the Seveso Directive.

Danger criteria

Category
P5c

National regulations

Industrial use : The information contained in this safety data sheet does not constitute the user's own assessment of workplace risks, as required by other health and safety legislation. The provisions of the national health and safety at work regulations apply to the use of this product at work.

Social Security Code, Articles L 461-1 to L 461-7	: Reaction mass of ethylbenzene and xylene	RG 4bis, RG 84
	1-methoxy-2-propanol	RG 84
	butan-1-ol	RG 84
	4-methylpentan-2-one	RG 84
	2,2'-iminodiethylamine	RG 49, RG 49bis

Reinforced medical surveillance : Decree n ° 2012-135 of January 30, 2012 relating to the organization of occupational medicine: not applicable

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.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Europe : All components are listed or exempted.

15.2 Chemical Safety Assessment : No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms

: ATE = Acute Toxicity Estimate
 CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
 DMEL = Derived Minimal Effect Level
 DNEL = Derived No Effect Level
 EUH statement = CLP-specific Hazard statement
 N/A = Not available
 PBT = Persistent, Bioaccumulative and Toxic
 PNEC = Predicted No Effect Concentration
 RRN = REACH Registration Number
 SGG = Segregation Group
 vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Flam. Liq. 3, H226 Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317 Carc. 2, H351 STOT SE 3, H335 STOT RE 2, H373 Asp. Tox. 1, H304 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 H226 H302 H304 H312 H314 H315 H317 H318 H319 H330 H332 H335 H336 H351 H373	Highly flammable liquid and vapor. Flammable liquid and vapor. Harmful if swallowed. May be fatal if swallowed and enters airways. Harmful in contact with skin. Causes severe skin burns and eye damage. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye damage. Causes serious eye irritation. Fatal if inhaled. Harmful if inhaled. May cause respiratory irritation. May cause drowsiness or dizziness. Suspected of causing cancer. May cause damage to organs through prolonged or repeated exposure.
H412 EUH066	Harmful to aquatic life with long lasting effects. Repeated exposure may cause skin dryness or cracking.

Full text of classifications [CLP/GHS]

Acute Tox. 2 Acute Tox. 4 Aquatic Chronic 3 Asp. Tox. 1 Carc. 2 Eye Dam. 1 Eye Irrit. 2 Flam. Liq. 2 Flam. Liq. 3 Skin Corr. 1B Skin Irrit. 2 Skin Sens. 1	ACUTE TOXICITY - Category 2 ACUTE TOXICITY - Category 4 AQUATIC HAZARD (LONG-TERM) - Category 3 ASPIRATION HAZARD - Category 1 CARCINOGENICITY - Category 2 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2 FLAMMABLE LIQUIDS - Category 2 FLAMMABLE LIQUIDS - Category 3 SKIN CORROSION/IRRITATION - Category 1B SKIN CORROSION/IRRITATION - Category 2 SKIN SENSITIZATION - Category 1
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Date of issue/Date of revision

: 1-10-2022

Version : 1

Date of previous issue

: No previous validation

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SECTION 16: Other information

STOT RE 2	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 3
STOT SE 3	

Date of printing	: 1 October 2022
Date of issue/ Date of revision	: 1 October 2022
Date of previous issue	: No previous validation
Version	: 1
Unique ID	:

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Date of issue/Date of revision	: 1-10-2022	Version	: 1
Date of previous issue	: No previous validation		20/20