# SAFETY DATA SHEET

Titebond Polyurethane Glue

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

### 1.1 Product identifier

**Product name** : Titebond Polyurethane Glue

**Product code** : 2303

**Product description** : Adhesive.

**Product type** : Liquid.

**Other means of identification** : None known.

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

| Identified uses |
| --- |
| Industrial use leading to embedding substances into a matrix. |

### 1.3 Details of the supplier of the safety data sheet

Franklin International
2020 Bruck Street
Columbus, Ohio 43207 USA

**e-mail address of person responsible for this SDS** : MSDS@FranklinInternational.com

**National contact**

Franklin International

### 1.4 Emergency telephone number

**National advisory body/Poison Center**

**Telephone number** : Charles University:
+420-224-919-293

**Supplier**

**Telephone number** : (614) 445-1300 (24 Hours)
Chemtrec (24 Hours): (703) 527-3887

**Hours of operation** : 24 Hours

**Information limitations** : English Only

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Product definition** : Mixture

**Classification according to Directive 1999/45/EC [DPD]**

The product is classified as dangerous according to Directive 1999/45/EC and its amendments.

**Classification** : Carc. Cat. 3; R40
T+; R26
R42/43

**Human health hazards** : Limited evidence of a carcinogenic effect. Very toxic by inhalation. May cause sensitization by inhalation and skin contact.

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

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

## SECTION 2: Hazards identification

### 2.2 Label elements

**Hazard symbol or symbols** :

**Indication of danger** : Very toxic

**Risk phrases** : R40- Limited evidence of a carcinogenic effect.
R26- Very toxic by inhalation.
R42/43- May cause sensitization by inhalation and skin contact.

**Safety phrases** : S1/2- Keep locked up and out of the reach of children.
S23- Do not breathe [***].
S28- After contact with skin, wash immediately with plenty of [***].
S36/37- Wear suitable protective clothing and gloves.
S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S63- In case of accident by inhalation: remove casualty to fresh air and keep at rest.

**Hazardous ingredients** : 4,4'-methylenediphenyl diisocyanate
Polymethylenepolyphenyl isocyanate
methylenediphenyl diisocyanate

**Supplemental label elements** : Contains isocyanates. See information supplied by the manufacturer. This information is provided by the current Safety Data Sheet.

**Special packaging requirements**

**Containers to be fitted with child-resistant fastenings** : Yes, applicable.

**Tactile warning of danger** : Yes, applicable.

### 2.3 Other hazards

**Other hazards which do not result in classification** : Not available.

## SECTION 3: Composition/information on ingredients

**Substance/mixture** : Mixture

| Product/ingredient name | Identifiers | % | Classification 67/548/EEC | Classification Regulation (EC) No. 1272/2008 [CLP] | Type |
|---|---|---|---|---|---|
| 4,4'-methylenediphenyl diisocyanate | EC: 202-966-0<br>CAS: 101-68-8<br>Index: 615-005-00-9 | 10-25 | Carc. Cat. 3; R40<br>Xn; R20, R48/20<br>Xi; R36/37/38<br>R42/43 | Acute Tox. 4, H332<br>Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>Resp. Sens. 1, H334<br>Skin Sens. 1, H317<br>STOT SE 3, H335<br>STOT RE 2, H373 | [1] [2] |
| Polymethylenepolyphenyl isocyanate | CAS: 9016-87-9 | 7-25 | T+; R26 | Acute Tox. 1, H330<br>Eye Irrit. 2, H319 | [1] |
| methylenediphenyl diisocyanate | EC: 247-714-0<br>CAS: 26447-40-5<br>Index: 615-005-00-9 | 1-3 | Carc. Cat. 3; R40<br>Xn; R20, R48/20<br>Xi; R36/37/38<br>R42/43 | Acute Tox. 4, H332<br>Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>Resp. Sens. 1, H334<br>Skin Sens. 1, H317<br>Carc. 2, H351<br>STOT SE 3, H335 | [1] |

## SECTION 3: Composition/information on ingredients

| | | | | | |
|---|---|---|---|---|---|
| | | | **See Section 16 for the full text of the R-phrases declared above.** | STOT RE 2, H373<br>**See Section 16 for the full text of the H statements declared above.** | |

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 or vPvBs 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

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 if irritation occurs.

**Inhalation** : Get medical attention immediately. 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. In the event of any complaints or symptoms, avoid further exposure.

**Skin contact** : Get medical attention immediately. Flush contaminated skin with plenty of 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. 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. 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. 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. 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

**Potential acute health effects**

**Eye contact** : No known significant effects or critical hazards.

## SECTION 4: First aid measures

**Inhalation** : Very toxic by inhalation. May cause sensitization by inhalation. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

**Skin contact** : May cause sensitization by skin contact.

**Ingestion** : No known significant effects or critical hazards.

**Over-exposure signs/symptoms**

**Eye contact** : No specific data.

**Inhalation** : Adverse symptoms may include the following:
wheezing and breathing difficulties
asthma

**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** : Use an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing media** : None known.

### 5.2 Special hazards arising from the substance or mixture

**Hazards from the substance or mixture** : In a fire or if heated, a pressure increase will occur and the container may burst.

**Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides

### 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.

**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. 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 specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also Section 8 for additional information on hygiene measures.

**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).

### 6.3 Methods and materials for containment and cleaning up

**Small spill** : Stop leak if without risk. Move containers from spill area. 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. 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

**Protective measures** : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. 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.

## SECTION 7: Handling and storage

**7.2 Conditions for safe storage, including any incompatibilities** : Store between the following temperatures: 23.889 to 40.556°C (75 to 105°F). Store in accordance with local regulations. 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. 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.

**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. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

**8.1 Control parameters**

**Occupational exposure limits**

| Product/ingredient name | Exposure limit values |
|---|---|
| 4,4'-methylenediphenyl diisocyanate | **MZCR PEL/NPK-P (Czech Republic, 3/2010). Skin sensitizer.**<br>TWA: 0.05 mg/m³ 8 hour(s).<br>TWA: 0.0049 ppm 8 hour(s).<br>STEL: 0.1 mg/m³ 15 minute(s).<br>STEL: 0.0098 ppm 15 minute(s). |

**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 European Standard EN 689 for methods for the assessment of exposure by inhalation to chemical agents and national guidance documents for methods for the determination of hazardous substances.

**Derived effect levels**

No DELs available.

**Predicted effect concentrations**

No PECs 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.

**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** : 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 or dusts.

**Skin protection**

## SECTION 8: Exposure controls/personal 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.

**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.

**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** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

**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** : Brown.

**Odor** : Faint odor.

**Odor threshold** : Not available.

**pH** : Not applicable.

**Melting point/freezing point** : Not available.

**Initial boiling point and boiling range** : Not available.

**Flash point** : Closed cup: >93.3°C [Setaflash.]

**Evaporation rate** : Not applicable.

**Flammability (solid, gas)** : Not available.

**Burning time** : Not applicable.

**Burning rate** : Not applicable.

**Upper/lower flammability or explosive limits** : Not available.

**Vapor pressure** : Not available.

**Vapor density** : Not available.

**Relative density** : 1.14

**Solubility(ies)** : Insoluble in the following materials: cold water and hot water.

**Partition coefficient: n-octanol/water** : Not available.

**Auto-ignition temperature** : Not available.

**Decomposition temperature** : Not available.

**Viscosity** : Not available.

**Explosive properties** : Not available.

**Oxidizing properties** : Not available.

### 9.2 Other information

No additional information.

## SECTION 9: Physical and chemical properties

## 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** : No specific data.

**10.5 Incompatible materials** : No specific data.

**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 |
|---|---|---|---|---|
| 4,4'-methylenediphenyl diisocyanate | LD50 Oral | Rat | 9200 mg/kg | - |
| Polymethylenepolyphenyl isocyanate | LC50 Inhalation Vapor | Rat | 490 mg/m3 | 4 hours |
| | LD50 Dermal | Rabbit | >9400 mg/kg | - |
| | LD50 Oral | Rat | 49 g/kg | - |

**Conclusion/Summary** : Not available.

**Irritation/Corrosion**

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|---|---|---|---|---|---|
| 4,4'-methylenediphenyl diisocyanate | Eyes - Moderate irritant | Rabbit | - | 100 milligrams | - |
| Polymethylenepolyphenyl isocyanate | Eyes - Mild irritant | Rabbit | - | 100 milligrams | - |

**Conclusion/Summary**

**Skin** : May cause skin irritation. Contains isocyanates. May be harmful if absorbed through skin.

**Eyes** : This product may irritate eyes upon contact.

**Respiratory** : May cause respiratory irritation.

**Sensitization**

**Conclusion/Summary**

**Skin** : Contains isocyanates. May cause sensitization by skin contact. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

**Respiratory** : Contains isocyanates. May cause sensitization by inhalation. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

**Mutagenicity**

**Conclusion/Summary** : Not available.

**Carcinogenicity**

**Conclusion/Summary** : Not available.

## SECTION 11: Toxicological information

**Reproductive toxicity**

**Conclusion/Summary** : Not available.

**Teratogenicity**

**Conclusion/Summary** : Not available.

**Information on the likely routes of exposure** : Routes of entry anticipated:Oral, Dermal, Inhalation.

**Potential acute health effects**

**Eye contact** : No known significant effects or critical hazards.

**Inhalation** : Very toxic by inhalation. May cause sensitization by inhalation. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

**Skin contact** : May cause sensitization by skin contact.

**Ingestion** : No known significant effects or critical hazards.

**Symptoms related to the physical, chemical and toxicological characteristics**

**Eye contact** : No specific data.

**Inhalation** : Adverse symptoms may include the following:
wheezing and breathing difficulties
asthma

**Skin contact** : Adverse symptoms may include the following:
irritation
redness

**Ingestion** : No specific data.

**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** : Contains isocyanates. May cause allergic reactions in certain individuals. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

**General** : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

**Carcinogenicity** : May cause cancer. Limited evidence of a carcinogenic effect. Risk of cancer depends on duration and level of exposure.

**Mutagenicity** : No known significant effects or critical hazards.

**Teratogenicity** : No known significant effects or critical hazards.

**Developmental effects** : No known significant effects or critical hazards.

**Fertility effects** : No known significant effects or critical hazards.

**Other information** : Not available.

## SECTION 11: Toxicological information

## SECTION 12: Ecological information

### 12.1 Toxicity

**Conclusion/Summary** : Not available.

### 12.2 Persistence and degradability

**Conclusion/Summary** : Not available.

### 12.3 Bioaccumulative potential

Not available.

### 12.4 Mobility in soil

**Soil/water partition coefficient ($K_{OC}$)** : Not available.

**Mobility** : Not available.

### 12.5 Results of PBT and vPvB assessment

**PBT** : Not applicable.

**vPvB** : Not applicable.

### 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. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. 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.

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

**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.

**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. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## SECTION 14: Transport information

| | ADR/RID | ADN/ADNR | IMDG | IATA |
|---|---|---|---|---|
| **14.1 UN number** | Not regulated. | Not regulated. | Not regulated. | Not regulated. |
| **14.2 UN proper shipping name** | - | - | - | - |
| **14.3 Transport hazard class(es)** | - | - | - | - |
| **14.4 Packing group** | - | - | - | - |
| **14.5 Environmental hazards** | No. | No. | No. | No. |
| **14.6 Special precautions for user** | Not available. | Not available. | Not available. | Not available. |
| **Additional information** | - | - | - | - |

**14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** : Not available.

## 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**

**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** : Persons already sensitized to diisocyanates may develop allergic reactions when using this product. Persons suffering from asthma, eczema or skin problems should avoid contact, including dermal contact, with this product. This product should not be used under conditions of poor ventilation unless a protective mask with an appropriate gas filter (i.e. type A1 according to standard EN 14387) is used.

**Other EU regulations**

**Europe inventory** : Not determined.

**Black List Chemicals** : Not listed

**Priority List Chemicals** : Listed

**Integrated pollution prevention and control list (IPPC) - Air** : Not listed

**Integrated pollution prevention and control list (IPPC) - Water** : Not listed

## SECTION 15: Regulatory information

| Product/ingredient name | Carcinogenic effects | Mutagenic effects | Developmental effects | Fertility effects |
|---|---|---|---|---|
| 4,4'-methylenediphenyl diisocyanate | Carc. Cat. 3; R40 | - | - | - |
| methylenediphenyl diisocyanate | Carc. Cat. 3; R40 | - | - | - |

**Storage code** : IV

**International regulations**

**Chemical Weapons Convention List Schedule I Chemicals** : Not listed

**Chemical Weapons Convention List Schedule II Chemicals** : Not listed

**Chemical Weapons Convention List Schedule III Chemicals** : 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** : ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number

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

Acute Tox. 3, H331
Eye Irrit. 2, H319
Resp. Sens. 1, H334
Skin Sens. 1, H317

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

| Classification | Justification |
|---|---|
| Acute Tox. 3, H331 | Calculation method |
| Eye Irrit. 2, H319 | Calculation method |
| Resp. Sens. 1, H334 | Calculation method |
| Skin Sens. 1, H317 | Calculation method |

**Full text of abbreviated H statements** :

| | |
|---|---|
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H319 | Causes serious eye irritation. |
| H330 | Fatal if inhaled. |
| 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. |
| H351 | Suspected of causing cancer. |
| H373 | May cause damage to organs through prolonged or repeated exposure. |

## SECTION 16: Other information

**Full text of classifications [CLP/GHS]** :

| | |
|---|---|
| Acute Tox. 1, H330 | ACUTE TOXICITY: INHALATION - Category 1 |
| Acute Tox. 3, H331 | ACUTE TOXICITY: INHALATION - Category 3 |
| Acute Tox. 4, H332 | ACUTE TOXICITY: INHALATION - Category 4 |
| Carc. 2, H351 | CARCINOGENICITY - Category 2 |
| Eye Irrit. 2, H319 | SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2 |
| Resp. Sens. 1, H334 | RESPIRATORY SENSITIZATION - Category 1 |
| Skin Irrit. 2, H315 | SKIN CORROSION/IRRITATION - Category 2 |
| Skin Sens. 1, H317 | SKIN SENSITIZATION - Category 1 |
| STOT RE 2, H373 | SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2 |
| STOT SE 3, H335 | SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) [Respiratory tract irritation] - Category 3 |

**Full text of abbreviated R phrases** : R40- Limited evidence of a carcinogenic effect.
R26- Very toxic by inhalation.
R20- Harmful by inhalation.
R48/20- Harmful: danger of serious damage to health by prolonged exposure through inhalation.
R36/37/38- Irritating to eyes, respiratory system and skin.
R42/43- May cause sensitization by inhalation and skin contact.

**Full text of classifications [DSD/DPD]** : Carc. Cat. 3 - Carcinogen category 3
T+ - Very toxic
Xn - Harmful
Xi - Irritant

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**Version** : 1

**Notice to reader**

**To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.**
**Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.**