

Safety Data Sheet

AB 110815

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

Date of revision 12.12.2024

Version 0.06

1. Identification of the Substance and the Company

1.1 Product identifier

| | |
|--------------|-----------------------------------|
| Product name | 3-Aminopropyltriethoxysilane; 98% |
| Index number | 612-108-00-0 |
| CAS number | 919-30-2 |
| Product code | AB110815 |

1.2 Identified uses

Chemicals used in research and development, analysis and production

1.3 Details of the supplier of the safety data sheet

| | |
|-----------------|---|
| Company details | abcr GmbH Im Schleher 10 76187 Karlsruhe Germany |
| Telephone | +49 (0)721 950 610 |
| Email | sdb@abcr.com |

1.4 Emergency telephone number

Emergency CONTACT (24-Hour-Number):
GBK GmbH +49 (0)6132-84463 (multilingual)

2. Hazards identification

2.1 Classification of the substance or mixture

Product definition Substance

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

| | | |
|------|------------------------------------|-------------|
| H302 | ACUTE TOXICITY (oral) | Category 4 |
| H314 | SKIN CORROSION/IRRITATION | Category 1B |
| H318 | SERIOUS EYE DAMAGE/ EYE IRRITATION | Category 1 |
| H317 | SKIN SENSITIZATION | Category 1 |

2.2 Label elements

Hazard pictograms



Signal word

Danger

| | |
|---|---|
| Hazard statements | H302 - Harmful if swallowed. H314 - Causes severe skin burns and eye damage. H317 - May cause an allergic skin reaction. |
| Precautionary statements | P280 - Wear protective gloves, protective clothing and eye or face protection. P310 - Immediately call a POISON CENTER or doctor. P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. P301 + P330 + P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. |
| Hazardous ingredients | 3-Aminopropyltriethoxysilane; 98% |
| 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. |

2.3 Other hazards

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

| | | | | | | |
|-----|-----|----|----|------|-----|----|
| PBT | P | B | T | vPvB | vP | vB |
| No | N/A | No | No | No | N/A | No |

Other hazards which do not result in classification

None known.

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

3. Composition/information on ingredients

Substance/mixture Mono-constituent substance

| Product/ingredient name | Identifiers | % | Classification Regulation (EC) No. 1272/2008 [CLP] | Specific Conc. Limits, M-factors and ATEs | Type |
|-----------------------------------|---|-----|--|---|------|
| 3-Aminopropyltriethoxysilane; 98% | EC: 213-048-4 CAS: 919-30-2 Index: 612-108-00-0 | 100 | Acute Tox. 4, H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 See Section 16 for the full text of the H statements declared above. | ATE [Oral] = 1570 mg/kg | [1] |

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

Type

[1] Constituent

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

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. 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. 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

Potential acute health effects

| | |
|---------------------|---|
| Eye contact | Causes serious eye damage. |
| Skin contact | Causes severe burns. May cause an allergic skin reaction. |
| Ingestion | Harmful if swallowed. |

Over-exposure signs/symptoms

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

| | |
|---------------------|--|
| Skin contact | Adverse symptoms may include the following: pain or irritation redness blistering may occur |
| Ingestion | Adverse symptoms may include the following: stomach pains |

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. |

5. Fire-fighting measures

5.1 Extinguishing media

| | |
|---------------------------------------|---|
| Suitable extinguishing media | Use dry chemical or CO ₂ . alcohol-resistant 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 | Combustible In a fire or if heated, a pressure increase will occur and the container may burst. |
| Hazardous combustion products | Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides metal oxide/oxides |

5.3 Advice for firefighters

| | |
|---|---|
| Special precautions 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. |

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 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).

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.

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 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. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. 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.

7.2 Conditions for safe storage, including any incompatibilities

Keep under inert atmosphere.

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. Store locked up. 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. |

8. Exposure controls/Personal protective equipment

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

No exposure limit value known.

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 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.

Derived effect levels

| Product/ingredient name | Type | Exposure | Value | Population | Effects |
|-----------------------------------|------|----------------------|-----------------------|--------------------|----------|
| 3-Aminopropyltriethoxysilane; 98% | DNEL | Long term Oral | 1 mg/kg bw/day | General population | Systemic |
| | DNEL | Long term Dermal | 1 mg/kg bw/day | General population | Systemic |
| | DNEL | Long term Dermal | 2 mg/kg bw/day | Workers | Systemic |
| | DNEL | Long term Inhalation | 3,5 mg/m ³ | General population | Systemic |
| | DNEL | Long term Inhalation | 14 mg/m ³ | Workers | Systemic |

Predicted effect concentrations

No PECs available.

8.2 Exposure controls

Appropriate engineering controls

If user operations generate dust, fumes, gas, vapor or mist, 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, 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 | butyl rubber |
| 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 | 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. |

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

| | |
|---|---|
| Appearance | |
| Physical state | Liquid. |
| Color | Colorless to light yellow. |
| Odor | Amine-like. |
| Odor threshold | Not available. |
| pH | Not available. |
| Melting point/freezing point | Not available. |
| Initial boiling point and boiling range | 122 °C [30 mm Hg] |
| Flammability (solid, gas) | Slightly flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat. |
| Upper/lower flammability or explosive limits | Lower: 0,8% Upper: 4,5% |
| Flash point | Closed cup: 96°C |
| Auto-ignition temperature | 300°C |
| Decomposition temperature | >217°C |
| Viscosity | Dynamic: 2 mPa·s |

Solubility(ies)

Not available.

Solubility at room temperature Insoluble [H₂O]
Reacts

**Partition coefficient: n-octanol/
water** 1,7

Vapor pressure 1,1 kPa [room temperature]
2,7 kPa [50°C]

Evaporation rate Not available.

Relative density Not available.

Density 0,942 g/cm³ [20°C]

Vapor density >1 [Air = 1]

Explosive properties Not available.

Oxidizing properties Not available.

Particle characteristics

Median particle size Not applicable.

9.2 Other information

Burning time Not applicable.

Burning rate Not applicable.

No additional information.

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

Moisture-reactive material. Handle under inert gas.

10.3 Possibility of hazardous reactions

Oxidizing agent.

10.4 Conditions to avoid

Reactive or incompatible with the following materials: oxidizing materials and acids.
May decompose on exposure to moist air or water. exposure to heat

10.5 Incompatible materials

Reactive or incompatible with the following materials:

water

acids

oxidizing agents

Water and acids react with this material to liberate ethanol.

10.6 Hazardous decomposition products

Ethanol

11. See toxicological information

11.1 Information on toxicological effects

Acute toxicity

| Product/ingredient name | Result | Species | Dose | Exposure |
|-----------------------------------|-------------|---------|-----------|----------|
| 3-Aminopropyltriethoxysilane; 98% | LD50 Dermal | Rabbit | 4,29 g/kg | - |
| | LD50 Oral | Rat | 1,57 g/kg | - |

Conclusion/Summary Not available.

Acute toxicity estimates

| Product/ingredient name | Oral (mg/kg) | Dermal (mg/kg) | Inhalation (gases) (ppm) | Inhalation (vapors) (mg/l) | Inhalation (dusts and mists) (mg/l) |
|-----------------------------------|--------------|----------------|--------------------------|----------------------------|-------------------------------------|
| 3-Aminopropyltriethoxysilane; 98% | 1570 | 4290 | N/A | N/A | N/A |

Irritation/Corrosion

Conclusion/Summary Not available.

Sensitizer

| Product/ingredient name | Route of exposure | Species | Result |
|-----------------------------------|-------------------|------------|-------------|
| 3-Aminopropyltriethoxysilane; 98% | skin | Guinea pig | Sensitizing |

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.

Information on the likely routes of exposure Not available.

Potential acute health effects

Inhalation No known significant effects or critical hazards.

| | |
|---------------------|---|
| Skin contact | Causes severe burns. May cause an allergic skin reaction. |
| Ingestion | Harmful if swallowed. |
| Eye contact | Causes serious eye damage. |

Symptoms related to the physical, chemical and toxicological characteristics

| | |
|---------------------|--|
| Inhalation | No specific data. |
| Ingestion | Adverse symptoms may include the following: stomach pains |
| Skin contact | Adverse symptoms may include the following: pain or irritation redness blistering may occur |
| Eye contact | Adverse symptoms may include the following: pain watering redness |

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

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.

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.

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

Not available.

11.2.2 Other information

Not available.

12. Ecological Information

12.1 Toxicity

| Product/ingredient name | Result | Species | Exposure |
|--------------------------------------|---------------|--|----------|
| 3-Aminopropyltriethoxysilane; 98% | EC50 603 mg/l | Algae - <i>Scenedesmus subspicatus</i> | 72 hours |
| | EC50 331 mg/l | Daphnia - <i>Daphia magna</i> | 48 hours |

Conclusion/Summary Not available.

12.2 Persistence and degradability

| Product/ingredient name | Test | Result | Dose | Inoculum |
|--------------------------------------|------|----------------|------|----------|
| 3-Aminopropyltriethoxysilane; 98% | - | 67 % - 28 days | - | - |

Conclusion/Summary Not available.

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|--------------------------------------|-------------------|------------|------------------|
| 3-Aminopropyltriethoxysilane; 98% | - | - | Readily |

12.3 Bioaccumulative potential

| Product/ingredient name | LogP _{ow} | BCF | Potential |
|--------------------------------------|--------------------|-----|-----------|
| 3-Aminopropyltriethoxysilane; 98% | 1,7 | 3,4 | Low |

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) Not available.

Mobility Not available.

12.5 Results of PBT and vPvB assessment

| Product/ingredient name | PBT | P | B | T | vPvB | vP | vB |
|--------------------------------------|-----|-----|----|----|------|-----|----|
| 3-Aminopropyltriethoxysilane; 98% | No | N/A | No | No | No | N/A | No |

12.6 Endocrine disrupting properties

Not available.

12.7 Other adverse effects

No known significant effects or critical hazards.

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.

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.

14. Transport information

| | ADR/RID | ADN | IMDG | IATA |
|--|--|--|---|--|
| 14.1 UN number or ID number | UN3267 | UN3267 | UN3267 | UN3267 |
| 14.2 UN proper shipping name | CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (3-Aminopropyltriethoxysilane; 98%) | CORROSIVE LIQUID, BASIC, ORGANIC, N. O.S. (3-Aminopropyltriethoxysilane; 98%) | CORROSIVE LIQUID, BASIC, ORGANIC, N. O.S. (3-Aminopropyltriethoxysilane; 98%) | Corrosive liquid, basic, organic, n.o.s. (3-Aminopropyltriethoxysilane; 98%) |
| 14.3 Transport hazard class(es) | 8  | 8  | 8  | 8  |
| 14.4 Packing group | II | II | II | II |
| 14.5 Environmental hazards | No. | No. | No. | No. |
| | | | | |

| | | | | |
|--|--|--|--|--|
| 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. | 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. | 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. | 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. |
| Additional information | Hazard identification number 80 Limited quantity 1 L Special provisions 274 Tunnel code (E) | Special provisions 274 | Emergency schedules F-A, S-B Special provisions 274 | Quantity limitation Passenger and Cargo Aircraft: 1 L. Packaging instructions: 851. Cargo Aircraft Only: 30 L. Packaging instructions: 855. Limited Quantities - Passenger Aircraft: 0,5 L. Packaging instructions: Y840. Special provisions A3, A803 |

14.7 Transport in bulk according to IMO instruments

Not available.

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

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

**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.

Persistent Organic Pollutants
Not listed.

Seveso Directive

This product is not controlled under the Seveso Directive.

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

| | |
|--------------------------------|--|
| China | This material is listed or exempted. |
| Canada | This material is listed or exempted. |
| Australia | This material is listed or exempted. |
| Eurasian Economic Union | Russian Federation inventory: This material is listed or exempted. |
| Japan | Japan inventory (CSCL): This material is listed or exempted. Japan inventory (ISHL): This material is listed or exempted. |
| New Zealand | This material is listed or exempted. |
| Philippines | This material is listed or exempted. |
| Republic of Korea | This material is listed or exempted. |
| Taiwan | This material is listed or exempted. |
| Thailand | This material is listed or exempted. |
| Turkey | This material is listed or exempted. |
| United States | This material is listed or exempted. |

Viet Nam This material is listed or exempted.

15.2 Chemical Safety Assessment Not available.

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

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

| Classification | Justification |
|---|--|
| Acute Tox. 4, H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 | Expert judgment Expert judgment SKIN CORROSION/IRRITATION Expert judgment |

Full text of abbreviated H statements

- H302 Harmful if swallowed.
- H314 Causes severe skin burns and eye damage.
- H317 May cause an allergic skin reaction.
- H318 Causes serious eye damage.

Full text of classifications [CLP/GHS]

- Acute Tox. 4, H302 ACUTE TOXICITY: ORAL - Category 4
- Skin Corr. 1B, H314 SKIN CORROSION/IRRITATION - Category 1B

Full text of classifications [CLP/GHS]

- Acute Tox. 4 ACUTE TOXICITY - Category 4
- Eye Dam. 1 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
- Skin Corr. 1B SKIN CORROSION/IRRITATION - Category 1B
- Skin Sens. 1 SKIN SENSITIZATION - Category 1

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Version 0.06

Notice to reader

The above information is based on our present state of knowledge. It should not therefore be construed as guaranteeing specific properties of the products described or their suitability for a particular application.