

SAFETY DATA SHEETS

According to the UN GHS revision 8

Version: 1.0

Creation Date: July 15, 2024

Revision Date: July 15, 2024

1. Identification

1.1 GHS Product identifier

Product name (3-Aminopropyl)triethoxysilane

1.2 Other means of identification

Product number A50004

Other names

1.3 Recommended use of the chemical and restrictions on use

Identified uses Adhesives and sealant chemicals,CBI,Intermediates,Paint additives and coating additives not described by other categories,Processing aids, specific to petroleum production

Uses advised against no data available

1.4 Supplier's details

Company Tianjin Psaitong Biomedical Technology Co., Ltd

Beijing Psaitong Biotechnology Co., Ltd

Address Building 145, Yougu New Science Park, Qingguang Town, Beichen District, Tianjin City

Tel/Fax +86-10-60605840

1.5 Emergency phone number

Emergency phone number +86-10-60605840

Service hours Monday to Friday, 9am-5pm (Standard time zone: UTC/GMT +8 hours).

2. Hazard identification

2.1 Classification of the substance or mixture

Acute toxicity - Oral, Category 4

Skin corrosion, Category 1B

2.2 GHS label elements, including precautionary statements

Pictogram(s)



Signal word Danger

Hazard statement(s) H302 Harmful if swallowed
H314 Causes severe skin burns and eye damage

Precautionary statement(s)

Prevention P264 Wash ... thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P260 Do not breathe dust/fume/gas/mist/vapours/spray.

| | |
|-----------------|---|
| Response | <p>P280 Wear protective gloves/protective clothing/eye protection/face protection.</p> <p>P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor/...if you feel unwell.</p> <p>P330 Rinse mouth.</p> <p>P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.</p> <p>P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].</p> <p>P363 Wash contaminated clothing before reuse.</p> <p>P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.</p> <p>P310 Immediately call a POISON CENTER/doctor/...</p> <p>P321 Specific treatment (see ... on this label).</p> <p>P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> |
| Storage | P405 Store locked up. |
| Disposal | P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal. |

2.3 Other hazards which do not result in classification

no data available

3. Composition/information on ingredients

3.1 Substances

| Chemical name | Common names and synonyms | CAS number | EC number | Concentration |
|------------------------------|------------------------------|------------|-----------|---------------|
| 3-aminopropyltriethoxysilane | 3-aminopropyltriethoxysilane | 919-30-2 | 213-048-4 | 100% |

4. First-aid measures

4.1 Description of necessary first-aid measures

General advice

Medical attention is required. Consult a doctor. Show this safety data sheet (SDS) to the doctor in attendance.

If inhaled

Move the victim into fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and consult a doctor immediately. Do not use mouth to mouth resuscitation if the victim ingested or inhaled the chemical.

Following skin contact

Take off contaminated clothing immediately. Wash off with soap and plenty of water. Consult a doctor.

Following eye contact

Rinse with pure water for at least 15 minutes. Consult a doctor.

Following ingestion

Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a doctor or Poison Control Center immediately.

4.2 Most important symptoms/effects, acute and delayed

no data available

4.3 Indication of immediate medical attention and special treatment needed, if necessary

Immediate first aid: Ensure that adequate decontamination has been carried out. If patient is not breathing, start artificial respiration, preferably with a demand-valve resuscitator, bag-valve-mask device, or pocket mask, as trained. Perform CPR as necessary. Immediately flush contaminated eyes with gently flowing water. Do not induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain an open airway and prevent aspiration. Keep patient quiet and maintain normal body temperature. Obtain medical attention. Silane, Chlorosilane, and Related Compounds

5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Specific hazards arising from the chemical

no data available

5.3 Special protective actions for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Avoid breathing mist, gas or vapours. Avoid contacting with skin and eye. Use personal protective equipment. Wear chemical impermeable gloves. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

6.2 Environmental precautions

Prevent further spillage or leakage if it is safe to do so. Do not let the chemical enter drains. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal. Personal precautions: Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

7. Handling and storage

7.1 Precautions for safe handling

Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Moisture sensitive. Store under inert gas.

8. Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure limit values

| | | | | |
|-----------|------------------------------|-------------------|--------------------------|-------------------|
| Component | 3-aminopropyltriethoxysilane | | | |
| CAS No. | 919-30-2 | | | |
| | Limit value - Eight hours | | Limit value - Short term | |
| | ppm | mg/m ³ | ppm | mg/m ³ |
| Finland | 3 | 28 | 6 (1) | 55 (1) |
| | Remarks | | | |
| Finland | (1) 15 minutes average value | | | |

8.2 Appropriate engineering controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

Wear tightly fitting safety goggles with side-shields conforming to EN 166(EU) or NIOSH (US).

Skin protection

Wear fire/ flame resistant and impervious clothing. Handle with gloves. Gloves must be inspected prior to use. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Respiratory protection

If the exposure limits are exceeded, irritation or other symptoms are experienced, use a full-face respirator.

Thermal hazards

no data available

9. Physical and chemical properties

| | |
|--|---|
| Physical state | Liquid. |
| Colour | Liquid |
| Odour | no data available |
| Melting point/ freezing point | -70 °C. Atm. press.:Ca. 101.3 kPa. |
| Boiling point or initial boiling point and boiling range | 217 °C. Atm. press.:Ca. 101.3 kPa. |
| Flammability | no data available |
| Lower and upper explosion limit / flammability limit | no data available |
| Flash point | 93 °C. Atm. press.:101.3 kPa. |
| Auto-ignition temperature | 270 °C. Atm. press.:100.93 - 101.07 kPa. |
| Decomposition temperature | no data available |
| pH | no data available |
| Kinematic viscosity | dynamic viscosity (in mPa s) = 2. Temperature:20°C. |
| Solubility | In water: 1 000 000 mg/L. Temperature:20 °C. |
| Partition coefficient n-octanol/water | log Pow = 1.7. Temperature:20 °C. |
| Vapour pressure | 1.7 Pa. Temperature:20 °C. |
| Density and/or relative density | 0.95 g/cm ³ . Temperature:20 °C. |
| Relative vapour density | no data available |
| Particle characteristics | no data available |

10. Stability and reactivity

10.1 Reactivity

no data available

10.2 Chemical stability

no data available

10.3 Possibility of hazardous reactions

no data available

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

Materials to avoid: Strong oxidizing agents, acids.

10.6 Hazardous decomposition products

When heated to decomposition it emits toxic fumes of /nitrogen oxides/.

11. Toxicological information

Acute toxicity

- Oral: LD50 - rat (male) - 2.83 mL/kg bw.
- Inhalation: LC50 - rat (male) - > 5 ppm.
- Dermal: LD50 - rabbit (male/female) - 4.29 mL/kg bw.

Skin corrosion/irritation

no data available

Serious eye damage/irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

no data available

Reproductive toxicity

no data available

STOT-single exposure

no data available

STOT-repeated exposure

no data available

Aspiration hazard

no data available

12. Ecological information

12.1 Toxicity

- Toxicity to fish: LC50 - Danio rerio (previous name: Brachydanio rerio) - > 934 mg/L - 96 h.
- Toxicity to daphnia and other aquatic invertebrates: EC50 - Daphnia magna - 331 mg/L - 48 h.
- Toxicity to algae: EC50 - Desmodesmus subspicatus (previous name: Scenedesmus subspicatus) - > 1 000 mg/L - 72 h.
- Toxicity to microorganisms: EC10 - Pseudomonas putida - 13 mg/L - 5.75 h. Remarks:Respiration rate.

12.2 Persistence and degradability

AEROBIC: (3-Aminopropyl)triethoxysilane was found to be not readily biodegradable when inoculated with domestic sewage and analyzed for biodegradation using the DOC die away test. The results indicated that after 28 days, 67 percent of (3-aminopropyl)triethoxysilane had degraded. This degradation was primarily attributed to hydrolysis. Hydrolysis of (3-aminopropyl)triethoxysilane occurs rapidly, and consequently biodegradation of the hydrolysis products (ethanol and trisilanols) is the primary fate pathway(1).

12.3 Bioaccumulative potential

Bioconcentration is not anticipated since this material is hydrolytically unstable; rapid hydrolysis of this material produces ethanol and trisilanols. (3-Aminopropyl)triethoxysilane's hydrolysis half-life is 0.15 hours at pH 9 and 24.7 deg C(1).

12.4 Mobility in soil

Adsorption to soil will not be an important environmental fate process due to (3-aminopropyl)triethoxysilane's rapid hydrolysis(SRC); its half-life is 0.15 hours at pH 9 and 24.7 deg C(1).

12.5 Other adverse effects

no data available

13. Disposal considerations

13.1 Disposal methods

Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

14. Transport information

14.1 UN Number

ADR/RID: UN2735 (For reference only, please check.)

IMDG: UN2735 (For reference only, please check.)

IATA: UN2735 (For reference only, please check.)

14.2 UN Proper Shipping Name

ADR/RID: AMINES, LIQUID, CORROSIVE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, N.O.S. (For reference only, please check.)

IMDG: AMINES, LIQUID, CORROSIVE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, N.O.S. (For reference only, please check.)

IATA: AMINES, LIQUID, CORROSIVE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, N.O.S. (For reference only, please check.)

14.3 Transport hazard class(es)

ADR/RID: 8 (For reference only, please check.)

IMDG: 8 (For reference only, please check.)

IATA: 8 (For reference only, please check.)

14.4 Packing group, if applicable

ADR/RID: I (For reference only, please check.)

IMDG: I (For reference only, please check.)

IATA: I (For reference only, please check.)

14.5 Environmental hazards

ADR/RID: No

IMDG: No

IATA: No

14.6 Special precautions for user

no data available

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

no data available

15. Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

| Chemical name | Common names and synonyms | CAS number | EC number |
|--|------------------------------|------------|-------------|
| 3-aminopropyltriethoxysilane | 3-aminopropyltriethoxysilane | 919-30-2 | 213-048-4 |
| European Inventory of Existing Commercial Chemical Substances (EINECS) | | | Listed. |
| EC Inventory | | | Listed. |
| United States Toxic Substances Control Act (TSCA) Inventory | | | Listed. |
| China Catalog of Hazardous chemicals 2015 | | | Not Listed. |
| New Zealand Inventory of Chemicals (NZIoC) | | | Listed. |
| Philippines Inventory of Chemicals and Chemical Substances (PICCS) | | | Listed. |
| Vietnam National Chemical Inventory | | | Listed. |
| Chinese Chemical Inventory of Existing Chemical Substances (China IECSC) | | | Listed. |
| Korea Existing Chemicals List (KECL) | | | Listed. |

16. Other information

Information on revision

| | |
|----------------------|---------------|
| Creation Date | July 15, 2024 |
| Revision Date | July 15, 2024 |

Abbreviations and acronyms

- CAS: Chemical Abstracts Service
- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- RID: Regulation concerning the International Carriage of Dangerous Goods by Rail
- IMDG: International Maritime Dangerous Goods
- IATA: International Air Transportation Association
- TWA: Time Weighted Average
- STEL: Short term exposure limit
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%
- EC50: Effective Concentration 50%

References

- IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>
- HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>
- IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>
- eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en
- CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>
- ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>
- ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>
- Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>
- ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

Disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. We as supplier shall not be held liable for any damage resulting from handling or from contact with the above product.