ThreeBond

# SAFETY DATA SHEET

This safety data sheet complies with the requirements of:
JIS Z 7252:2019; JIS Z 7253:2019

**Issuing Date** 14-Sep-2021
**Revision date** 01-Dec-2023
**Revision Number** 3

## 1. Identification

**Product Name** ThreeBond 1303B

**Details of the supplier of the safety data sheet**

**Supplier**
ThreeBond Fine Chemical Co., Ltd.
1-1 Oyama-cho, Midori-ku, Sagamihara-shi, Kanagawa 252-0146 Japan
**Emergency telephone number**
+81-42-703-7126 (Inquiries regarding SDS content)
+81-42-670-5333 (Inquiries regarding the product or SDS claim)

**Recommended use of the chemical and restrictions on use**

**Recommended use** Adhesive, Sealant

**Restrictions on use** Please be sure to confirm in advance the appropriateness and safety of using the product for the relevant application If the product is to be used for applications other than those recommended, please seek professional judgment This product is for industrial use and its use for household and medical implants is prohibited.

## 2. Hazard(s) identification

**GHS Classification**

| | |
|---|---|
| Acute toxicity - Oral | Classification not possible |
| Acute toxicity - Dermal | Classification not possible |
| Acute toxicity - Inhalation (Gases) | Classification not applicable |
| Acute toxicity - Inhalation (Vapors) | Classification not possible |
| Acute toxicity - Inhalation (Dusts/Mists) | Category 4 |
| Skin corrosion/irritation | Category 2 |
| Serious eye damage/eye irritation | Category 1 |
| Respiratory sensitization | Classification not possible |
| Skin sensitization | Category 1 |
| Germ cell mutagenicity | Classification not possible |
| Carcinogenicity | Classification not possible |
| Reproductive toxicity | Classification not possible |
| Effects on or via lactation | Classification not possible |
| Specific target organ toxicity (single exposure) | Classification not possible |
| Specific target organ toxicity (repeated exposure) | Category 2 |
| Category 2 Respiratory system, blood system. | |
| Aspiration hazard | Classification not possible |
| Acute aquatic toxicity | Category 3 |
| Chronic aquatic toxicity | Category 3 |
| Ozone | Classification not possible |

**GHS label elements**

**Signal word** Danger

**Hazard statements**

H332 - Harmful if inhaled
H315 - Causes skin irritation
H318 - Causes serious eye damage
H317 - May cause an allergic skin reaction
H412 - Harmful to aquatic life with long lasting effects
H373 - May cause damage to organs through prolonged or repeated exposure
May cause damage to the following organs through prolonged or repeated exposure: Respiratory system, blood system.

**Precautionary statements**

**Prevention**

• Use only outdoors or in a well-ventilated area
• Wash face, hands and any exposed skin thoroughly after handling
• Contaminated work clothing should not be allowed out of the workplace
• Do not breathe dust/fume/gas/mist/vapors/spray
• Avoid release to the environment
• Wear protective gloves/protective clothing/eye protection/face protection

**Response**

• Get medical advice/attention if you feel unwell
• Specific treatment (see section 4 on this SDS)

**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

**Skin**

• IF ON SKIN: Wash with plenty of water and soap
• Take off contaminated clothing and wash it before reuse
• If skin irritation or rash occurs: Get medical advice/attention

**Inhalation**

• IF INHALED: Remove person to fresh air and keep comfortable for breathing
• Call a POISON CENTER or doctor if you feel unwell

**Storage**

• Not applicable

**Disposal**

• Dispose of contents/container to an approved waste disposal plant

**Other hazards**

No information available.

## 3. Composition/information on ingredients

**Pure substance/mixture** Mixture

| Chemical name | CAS No. | Weight-% | ENCS Number | ISHL No. |
|---|---|---|---|---|
| Ethylene chlorohydrin | 107-07-3 | 0.1-<1 | (2)-2002 | (2)-2002 |
| Cumene hydroperoxide | 80-15-9 | 3.6 | (3)-1014 | (3)-1014 |
| Cumene | 98-82-8 | 0.1-<1 | (3)-22 | (3)-32,(3)-22 |
| Acrylate monomer, Acrylate polymer | - | 85-<95 | | |

This product contains ≥1.0 - <10% of substance (s) that are classified for Specific target organ toxicity (single exposure) Category

2.

**Pollutant Release and Transfer Register (PRTR)**
The amount of the relevant substance in certain cases referenced in article 4(i)(a) or 4(i)(b) of the Enforcement Order of the Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof (PRTR Act) is calculated based on the conversion factors shown (with safety factor = 1 in cases where conversion factor information is not available)

| Chemical name | Cabinet order name | Metal, CN, F, etc. | Conversion coefficient | Category | Ordinance number | Control number |
|---|---|---|---|---|---|---|
| * | 1-Methyl-1-Phenylethyl Hydroperoxide | | | Class II designated chemical substance | 2-129 | 440 |

***** Refer to Cabinet order name

**Industrial Safety and Health Law**
ISHL Notifiable Substances
Article 57-2 of the ISHL, Article 18-2, Item 1, Item 2, Table 9 and Item 3, Table 3 of Order for Enforcement
Harmful substances requiring risk assessment
Article 57-3 of the ISHL

| Chemical name | Ministerial Ordinance Name | CAS No. | Implementation date |
|---|---|---|---|
| Ethylene chlorohydrin | Ethylene chlorohydrin | 107-07-3 | |
| Cumene | Cumene | 98-82-8 | |

Harmful Substances Whose Names Are to be Indicated on the Label
Article 57 of ISHL, Article 18, Item 1, Item 2, Table 9 and Item 3, Table 3 of Order for Enforcement

| Chemical name | Ministerial Ordinance Name | CAS No. | Implementation date |
|---|---|---|---|
| Ethylene chlorohydrin | Ethylene chlorohydrin | 107-07-3 | |

**Poisonous and Deleterious Substances Control Law**
Not applicable

**Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. (CSCL)**
Not applicable

## 4. First-aid measures

**General advice** Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.

**In case of inhalation** Remove to fresh air. Get medical attention immediately if symptoms occur. If symptoms persist, call a physician. If breathing has stopped, give artificial respiration. Get medical attention immediately.

**In case of skin contact** Wash off immediately with soap and plenty of water for at least 15 minutes. May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a physician.

**In case of eye contact** Get immediate medical advice/attention. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area.

**In case of ingestion** Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Get medical attention.

**Most important symptoms/effects, acute and delayed** Burning sensation. Itching. Rashes. Hives. Coughing and/ or wheezing. Difficulty in breathing.

**Self-protection of the first aider** Avoid contact with skin, eyes or clothing. Ensure that medical personnel are aware of the

material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid breathing vapors or mists. Use personal protective equipment as required. See section 8 for more information.

**Note to physicians** May cause sensitization in susceptible persons. Treat symptomatically.

## 5. Fire-fighting measures

**Suitable Extinguishing Media** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable extinguishing media** Do not scatter spilled material with high pressure water streams.

**Specific hazards arising from the chemical** Product is or contains a sensitizer. May cause sensitization by skin contact.

**Flammable properties** Combustible material: may burn but does not ignite readily. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated.

**Special Extinguishing Media** Cool container with water spray.

**Special protective equipment and precautions for fire-fighters** Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

**Other information** CAUTION: Use of water spray when fighting fire may be inefficient.

## 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures** Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Ensure adequate ventilation. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Avoid breathing vapors or mists.

**For emergency responders** Use personal protection recommended in Section 8.

**Environmental precautions** Prevent further leakage or spillage if safe to do so.

**Methods for containment** Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up** Pick up and transfer to properly labeled containers.

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

**Other information** Refer to protective measures listed in Sections 7 and 8.

## 7. Handling and storage

**Handling**

**Advice on safe handling** Take equipment measures listed in Section 8. Wear protection gear. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Take off contaminated clothing and wash before reuse. Avoid breathing vapors or mists.

**Hygiene Measures** Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product.

**Storage**

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up.

Keep out of the reach of children.

## 8. Exposure controls/personal protection

**Exposure guidelines**

| Chemical name | Japan Society of Occupational Health | ISHL Working Environmental Evaluation Standards - Administrative Control Levels | ACGIH TLV | Japan ISHA Workplace exposure limit - 8 hours | Japan ISHA Workplace exposure limit - Short time |
|---|---|---|---|---|---|
| Ethylene chlorohydrin<br>107-07-3 | - | - | S*<br>Ceiling: 1 ppm | 2 ppm | - |
| Cumene<br>98-82-8 | TWA: 10 ppm<br>TWA: 50 mg/m$^3$<br>S* | - | TWA: 5 ppm | 10 ppm | - |

**Biological monitoring indicator** Not applicable

**Engineering controls** Showers
Eyewash stations
Ventilation systems.

**Environmental exposure controls** Install local ventilation or seal source of substances. Install safety shower, hand wash, and eye wash station. Clearly indicate the location.

**Personal protective equipment**

**Respiratory protection** In case of inadequate ventilation wear respiratory protection. If workers are exposed to gases or vapors, consider wearing respiratory protective equipment (e.g., gas masks). When handling highly concentrated chemicals, consider wearing an air-supplied respirator. When selecting a respirator, the following points should be considered.
-Do not use masks in areas where the oxygen concentration is less than 18%.
-When using a gas mask in an environment where workers are exposed to dust, use an absorbent can with dustproof function.
-Select a gas mask with performance and construction suitable for the work in accordance with the Japanese Industrial Standard (JIS T8152), and refer to the data provided in the instruction manual.

**Hand protection** Wear suitable gloves. Impervious gloves. Consider wearing impervious protective gloves. When selecting protective gloves, the following points should be considered.
-Referring to the impermeability class, etc. listed in the instruction manual, set a use time that allows for the work, and use protective gloves within that time range.

**Eye/face protection** Tight sealing safety goggles.

**Skin and body protection** Wear suitable protective clothing. Long sleeved clothing.

## 9. Physical and chemical properties

**Information on basic physical and chemical properties**

**Physical state** Liquid
**Color** Purple-Brown

| | |
|---|---|
| **Odor** | Distinct odor |

| Property | Values | Remarks • Method |
|---|---|---|
| **Melting point / freezing point** | no data available | |
| **Initial boiling point and boiling range** | | |
| **Flammability** | no data available | |
| **Upper/lower flammability or explosive limits** | | |
| **Upper flammability or explosive limits** | no data available | |
| **Lower flammability or explosive limits** | no data available | |
| **Flash point** | 104 °C | Cleveland open cup |
| **Evaporation rate** | no data available | |
| **Autoignition temperature** | no data available | |
| **Decomposition temperature** | no data available | |
| **pH** | no data available | |
| **Viscosity** | | |
| **Kinematic viscosity** | no data available | |
| **Dynamic viscosity** | 125 mPa･s | |
| **Water solubility** | Partially miscible | |
| **Solubility(ies)** | no data available | |
| **Partition Coefficient (n-octanol/water)** | no data available | |
| **Vapor pressure** | no data available | |
| **Density and/or relative density** | | |
| **Relative density** | 1.07 | |
| **Liquid Density** | no data available | |
| **Bulk density** | no data available | |
| **Relative vapor density** | no data available | |
| **Particle characteristics** | | |
| **Particle Size** | no data available | |
| **Particle Size Distribution** | no data available | |

**Other information**

| | |
|---|---|
| **Explosive properties** | no data available |
| **Oxidizing properties** | No data available |

## 10. Stability and reactivity

**Chemical stability** Stable under normal conditions.

**Possibility of hazardous reactions** Polymerize by contacting metals and excluding oxygen.

**Conditions to avoid** Keep at high temperature. Excessive heating.

**Incompatible materials** Metals. Strong acids. Strong bases. Strong oxidizing agents.

**Hazardous decomposition products** May generate harmful gas by incineration.

## 11. Toxicological information

**Acute toxicity**

**Numerical measures of toxicity - Product Information**

**The following values are calculated based on chapter 3.1 of the GHS document**

| | |
|---|---|
| **ATEmix (oral)** | 10,710.00 mg/kg |

**ATEmix (dermal)** 8,488.50 mg/kg
**ATEmix (inhalation-dust/mist)** 2.42 mg/l

**Unknown acute toxicity**

94.29334 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

**Numerical measures of toxicity - Component Information**

| Chemical name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| Ethylene chlorohydrin | = 71 mg/kg ( Rat ) | = 67 mg/kg ( Rabbit ) | = 32 ppm ( Rat ) 4 h |
| Cumene hydroperoxide | = 382 mg/kg ( Rat ) | = 0.126 mL/kg ( Rabbit ) | = 220 ppm ( Rat ) 4 h |
| Cumene | = 1400 mg/kg ( Rat ) | = 12300 µL/kg ( Rabbit ) | > 3577 ppm ( Rat ) 6 h |

*Abbreviations and acronyms*

*Rat: Rat*
*Rabbit: Rabbit*

**Symptoms** Redness. Burning. May cause blindness. Itching. Rashes. Hives. May cause redness and tearing of the eyes. Coughing and/ or wheezing.

**Product Information**

**Ingestion** Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

**Inhalation** Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract. Harmful by inhalation. (based on components).

**Skin contact** Specific test data for the substance or mixture is not available. May cause sensitization by skin contact. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. (based on components). Causes skin irritation.

**Eye contact** Specific test data for the substance or mixture is not available. Causes serious eye damage. May cause irreversible damage to eyes.

**Skin corrosion/irritation** May cause skin irritation. Classification based on data available for ingredients. Causes skin irritation.

**Serious eye damage/eye irritation** Classification based on data available for ingredients. Causes burns. Causes serious eye damage.

**Respiratory or skin sensitization** May cause an allergic skin reaction.

**Carcinogenicity**

The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Chemical name | Japan | IARC |
|---|---|---|
| Cumene<br>98-82-8 | 1B | Group 2B |

**Legend**

**IARC (International Agency for Research on Cancer)**
Group 2B - Possibly Carcinogenic to Humans

**STOT - repeated exposure** May cause damage to organs through prolonged or repeated exposure.

May cause damage to the following organs through prolonged or repeated exposure: Respiratory system, blood system.

## 12. Ecological information

**Ecotoxicity** Harmful to aquatic life with long lasting effects.

| Chemical name | Algae/aquatic plants | Fish | Crustacea |
|---|---|---|---|
| Ethylene chlorohydrin | EC50: =2.9mg/L (72h, Desmodesmus subspicatus) | LC50: 35 - 40mg/L (96h, Pimephales promelas)<br>LC50: 19.2 - 24.1mg/L (96h, Lepomis macrochirus)<br>LC50: 26.4 - 34.5mg/L (96h, Oryzias latipes)<br>LC50: 49 - 84mg/L (96h, Pimephales promelas)<br>LC50: 30.8 - 41.2mg/L (96h, Oncorhynchus mykiss) | EC50: 187 - 275mg/L (48h, Daphnia magna) |
| Cumene hydroperoxide | - | LC50: =3.9mg/L (96h, Oncorhynchus mykiss) | - |
| Cumene | EC50: =2.6mg/L (72h, Pseudokirchneriella subcapitata) | LC50: 6.04 - 6.61mg/L (96h, Pimephales promelas)<br>LC50: =4.8mg/L (96h, Oncorhynchus mykiss)<br>LC50: =2.7mg/L (96h, Oncorhynchus mykiss)<br>LC50: =5.1mg/L (96h, Poecilia reticulata) | EC50: =0.6mg/L (48h, Daphnia magna)<br>EC50: 7.9 - 14.1mg/L (48h, Daphnia magna) |

**Percentage for unknown hazards** 0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

**Persistence and degradability** No information available.

**Bioaccumulation**

**Component Information**

| Chemical name | Partition coefficient |
|---|---|
| Ethylene chlorohydrin<br>107-07-3 | 1.06 |
| Cumene hydroperoxide<br>80-15-9 | 1.6 |
| Cumene<br>98-82-8 | 3.55 |

**Mobility in soil** No information available.

**Hazardous to the ozone layer** Classification not possible. Based on available data, the classification criteria are not met.

**Other adverse effects** No information available.

## 13. Disposal considerations

**Waste from residues/unused products** Dispose of in accordance with national, state and local regulations. Consult industrial waste managent companies for waste. Do not release this product to natural environment nor reclaim.

**Contaminated packaging** Dispose containers as same as residual of this product.

## 14. Transport information

**IMDG** Not regulated

**ADR** Not regulated

**IATA** Not regulated

**Japan** Not regulated

## 15. Regulatory information

**National regulations**

**Pollutant Release and Transfer Register (PRTR)**
Applies See section 3 for more information
**Industrial Safety and Health Law**

**Prevention of hazards due to specified chemical substances**
Not applicable
**Ordinance on Prevention of Organic Solvent Poisoning**
Not applicable
**ISHL Notifiable Substances**
Article 57-2 of the ISHL, Article 18-2, Item 1, Item 2, Table 9 and Item 3, Table 3 of Order for Enforcement
**Harmful substances requiring risk assessment**
Article 57-3 of the ISHL
**Harmful Substances Whose Names Are to be Indicated on the Label**
Article 57 of ISHL, Article 18, Item 1, Item 2, Table 9 and Item 3, Table 3 of Order for Enforcement
**Strong mutagenic chemical substances**
Existing chemical substances with mutagenicity recognized (Article 57-5 of the Industrial Safety and Health Law, Notification of Labor Standards Bureau Director).

**Poisonous and Deleterious Substances Control Law**
Not applicable
**Explosives Control Law**
No
**High Pressure Gas Safety Act**
Not applicable
**Fire Service Law:**
Flammable liquids, group 4, 3rd class petroleums, water-insoluble, hazard rank III, 2000 liters
**Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. (CSCL)**
Not applicable

**Ship (Marine Transportation) Safety Act**
See section 14 for more information
**Civil Aeronautics Act**

See section 14 for more information
**Act on Port Regulation Law**
See section 14 for more information

## 16. Other information

**Issuing Date** 14-Sep-2021
**Revision date** 01-Dec-2023

**Key or legend to abbreviations and acronyms used in the safety data sheet**

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | | | |
|---|---|---|---|
| TWA | TWA (time-weighted average) | Ceiling | Maximum limit value |
| * | Skin designation | + | Sensitizers |

**Key literature references and sources for data used to compile the SDS**
JIS Z 7252:2019 Classification of chemicals based on "Globally Harmonized System of Classification and Labelling of Chemicals (GHS)"
JIS Z 7253:2019 Hazard communication of chemicals based on GHS-Labelling and Safety Data Sheet (SDS)

**Disclaimer**
This SDS complies with the requirements of JIS Z 7252:2019 and JIS Z 7253:2019 (Japan). The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.