

Issuing Date 14-Sep-2021
Revision date 01-Dec-2023
Revision Number 2

1. Identification

Product Name ThreeBond 1305N

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) | Classification not possible |
| Skin corrosion/irritation | Category 2 |
| Serious eye damage/eye irritation | Category 2A |
| 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) | Classification not possible |
| Aspiration hazard | Classification not possible |
| Acute aquatic toxicity | Classification not possible |
| Chronic aquatic toxicity | Not classified |
| Ozone | Classification not possible |

GHS label elements

**Signal word**

Warning

Hazard statements

H315 - Causes skin irritation

H319 - Causes serious eye irritation

H317 - May cause an allergic skin reaction

Precautionary statements**Prevention**

- Wash face, hands and any exposed skin thoroughly after handling
- Avoid breathing dust/fume/gas/mist/vapors/spray
- Contaminated work clothing should not be allowed out of the workplace
- Wear protective gloves/protective clothing/eye protection/face protection

Response

- 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
- If eye irritation persists: Get medical advice/attention

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

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. |
|-----------------------------|----------|----------|--------------|---------------|
| Toluene | 108-88-3 | 0.1-<1 | (3)-2,(3)-60 | 2-(8)-869 |
| 2-Hydroxyethyl methacrylate | 868-77-9 | 15-<25 | (2)-1044 | (2)-1044 |
| Cumene | 98-82-8 | 0.1-<10 | (3)-22 | (3)-32,(3)-22 |
| Noncrystalline silica | - | 1-<5 | | |
| (Meth)acrylic ester | - | 70-<80 | | |

This product contains ≥ 0.1 - $< 0.3\%$ of substance (s) that are classified for Reproductive toxicity Category 1/1A/1B/Lactation. This product contains ≥ 0.1 - $< 3.0\%$ of substance (s) that are classified for Reproductive toxicity Category 2.

Pollutant Release and Transfer Register (PRTR)

Not applicable

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 |
|---------------|----------------------------|----------|---------------------|
| Toluene | Toluene | 108-88-3 | |
| Cumene | Cumene | 98-82-8 | |

Harmful Substances Whose Names Are to be Indicated on the Label

Not applicable

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 | 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. |
| In case of skin contact | May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a physician. Wash off immediately with soap and plenty of water for at least 15 minutes. |
| In case of eye contact | 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. Get medical attention if irritation develops and persists. |
| 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. Call a physician. |
| Most important symptoms/effects, acute and delayed | Itching. Rashes. Hives. May cause redness and tearing of the eyes. Burning sensation. |
| Self-protection of the first aider | Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8). |
| 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. |
| 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. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. |
| 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. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. |
| Hygiene Measures | Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Avoid contact with skin, eyes or clothing. |

Storage

| | |
|---------------------------|--|
| Storage Conditions | Keep containers tightly closed in a dry, cool and well-ventilated place. |
|---------------------------|--|

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 |
|---------------------|---|---|---|---|--|
| Toluene 108-88-3 | TWA: 50 ppm TWA: 188 mg/m ³ S* | 20 ppm | Ototoxicant - potential to cause hearing disorders TWA: 20 ppm | - | - |
| Cumene 98-82-8 | TWA: 10 ppm TWA: 50 mg/m ³ S* | - | TWA: 5 ppm | 10 ppm | - |

Biological monitoring indicator

| Chemical name | Japan Society of Occupational Health | ACGIH |
|---------------------|---|---|
| Toluene 108-88-3 | 0.6 mg/L - blood (Toluene) - within 2 h prior to end of shift at end of work week 0.06 mg/L - urine (Toluene) - within 2 h prior to end of shift at end of work week | 0.02 mg/L - blood (Toluene) - prior to last shift of workweek 0.03 mg/L - urine (Toluene) - end of shift 0.3 mg/g creatinine - urine (o-Cresol with |

| | | |
|--|--|----------------------------|
| | | hydrolysis) - end of shift |
|--|--|----------------------------|

| | |
|---|---|
| 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. |
| <u>Personal protective equipment</u> | |
| 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 | Wear safety glasses with side shields (or 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 | Green | |
| Odor | Distinct odor | |
| <u>Property</u> | <u>Values</u> | <u>Remarks • Method</u> |
| 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 | 112 °C | Cleveland open cup |
| Evaporation rate | no data available | |
| Autoignition temperature | 200 °C or above | |
| Decomposition temperature | no data available | |
| pH | no data available | |
| Viscosity | | |
| Kinematic viscosity | no data available | |
| Dynamic viscosity | 650 mPa·s | |
| Water solubility | Slightly soluble | |
| Solubility(ies) | no data available | |
| Partition Coefficient | no data available | |

| | |
|---------------------------------|-------------------|
| (n-octanol/water) | |
| Vapor pressure | no data available |
| Density and/or relative density | |
| Relative density | 1.11 |
| 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. Polymerize by heat. |
| Conditions to avoid | heating. |
| Incompatible materials | Metals. |
| 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) 17,891.10 mg/kg

Numerical measures of toxicity - Component Information

| Chemical name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|-----------------------------|----------------------|--------------------------|-------------------------|
| Toluene | = 2600 mg/kg (Rat) | = 12000 mg/kg (Rabbit) | = 12.5 mg/L (Rat) 4 h |
| 2-Hydroxyethyl methacrylate | = 5050 mg/kg (Rat) | > 3000 mg/kg (Rabbit) | - |
| Cumene | = 1400 mg/kg (Rat) | = 12300 µL/kg (Rabbit) | > 3577 ppm (Rat) 6 h |

Abbreviations and acronyms

Rat: Rat

Rabbit: Rabbit

| | |
|-----------------|---|
| Symptoms | Itching. Rashes. Hives. Redness. May cause redness and tearing of the eyes. |
|-----------------|---|

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.

Skin contact

May cause sensitization by skin contact. Specific test data for the substance or mixture is not available. 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 irritation. (based on components). May cause redness, itching, and pain.

Skin corrosion/irritation

Classification based on data available for ingredients. Causes skin irritation.

Serious eye damage/eye irritation

Classification based on data available for ingredients. Causes serious eye irritation.

Respiratory or skin sensitization

May cause an allergic skin reaction.

Carcinogenicity

The hazardous substance(s) which is (are) any of the following substances and listed on section 3 is (are) embedded in the product and not available as respirable dusts. When used as intended or as supplied, the product will not pose hazards of the hazardous substance(s). Silica, Quartz, Carbon black, Titanium oxide, Crystalline silica.

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

| Chemical name | Japan | IARC |
|---------------------|-------|----------|
| Toluene 108-88-3 | - | Group 3 |
| Cumene 98-82-8 | 1B | Group 2B |

Legend**IARC (International Agency for Research on Cancer)**

Group 1 - Carcinogenic to Humans

Group 2B - Possibly Carcinogenic to Humans

Group 3 - Not Classifiable as to Carcinogenicity in Humans

STOT - single exposure

The following hazardous substance is embedded in the product and not available as respirable dusts. When used as intended or as supplied, the product will not pose hazards of the hazardous substance. Silica.

STOT - repeated exposure

The hazardous substance(s) which is (are) any of the following substances and listed on section 3 is (are) embedded in the product and not available as respirable dusts. When used as intended or as supplied, the product will not pose hazards of the hazardous substance(s). Silica, Quartz, Carbon black, Crystalline silica.

12. Ecological information

Ecotoxicity

Classification not possible. Based on available data, the classification criteria are not met.

| Chemical name | Algae/aquatic plants | Fish | Crustacea |
|-----------------------------|---|--|--|
| Toluene | EC50: >433mg/L (96h, Pseudokirchneriella subcapitata) EC50: =12.5mg/L (72h, Pseudokirchneriella subcapitata) | LC50: 15.22 - 19.05mg/L (96h, Pimephales promelas) LC50: =12.6mg/L (96h, Pimephales promelas) LC50: 5.89 - 7.81mg/L (96h, Oncorhynchus mykiss) LC50: 14.1 - 17.16mg/L (96h, Oncorhynchus mykiss) LC50: =5.8mg/L (96h, Oncorhynchus mykiss) LC50: 11.0 - 15.0mg/L (96h, Lepomis macrochirus) LC50: =54mg/L (96h, Oryzias latipes) LC50: =28.2mg/L (96h, Poecilia reticulata) LC50: 50.87 - 70.34mg/L (96h, Poecilia reticulata) | EC50: 5.46 - 9.83mg/L (48h, Daphnia magna) EC50: =11.5mg/L (48h, Daphnia magna) |
| 2-Hydroxyethyl methacrylate | - | LC50: 213 - 242mg/L (96h, Pimephales promelas) LC50: =227mg/L (96h, Pimephales promelas) | - |
| Cumene | EC50: =2.6mg/L (72h, Pseudokirchneriella subcapitata) | LC50: 6.04 - 6.61mg/L (96h, Pimephales promelas) LC50: =4.8mg/L (96h, Oncorhynchus mykiss) LC50: =2.7mg/L (96h, Oncorhynchus mykiss) LC50: =5.1mg/L (96h, Poecilia reticulata) | EC50: =0.6mg/L (48h, Daphnia magna) 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 |
|---|-----------------------|
| Toluene 108-88-3 | 2.73 |
| 2-Hydroxyethyl methacrylate 868-77-9 | 0.42 |
| Cumene 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.

Endocrine Disruptor Information

13. Disposal considerations

| | |
|--|---|
| Waste from residues/unused products | Dispose of in accordance with national, state and local regulations. Consult industrial waste management 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)

Not applicable

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

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 sheetLegend 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.