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Version 4

Section 1: PRODUCT AND COMPANY IDENTIFICATION

Product identifier

Product name ThreeBond 3042B

Recommended use of the chemical and restrictions on use

Recommended use Adhesive, Sealant

Details of the supplier of the safety data sheet

Manufacturer

ThreeBond Fine Chemical Co., Ltd.

Department in charge & Address

Production Engineering Division
1-1 Oyama-cho, Midori-ku
Sagamihara-shi, Kanagawa, Japan

Emergency telephone number

+81-42-774-1333

Section 2: HAZARDS IDENTIFICATION

Classification of the substance or mixture

Acute toxicity - Oral	Category 4
Acute toxicity - Dermal	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Serious eye damage/eye irritation	Category 1
Skin sensitization	Category 1
Specific target organ toxicity (single exposure)	Category 3
Category 3 Respiratory irritation, Narcotic effects.	
Specific target organ toxicity (repeated exposure)	Category 1
Category 1 Respiratory system	
Acute aquatic toxicity	Category 2

Label elements



Signal word

Danger

Hazard statements

H302 - Harmful if swallowed
 H312 - Harmful in contact with skin
 H317 - May cause an allergic skin reaction
 H318 - Causes serious eye damage
 H332 - Harmful if inhaled
 H372 - Causes damage to organs through prolonged or repeated exposure
 H401 - Toxic to aquatic life
 H335 - May cause respiratory irritation
 H336 - May cause drowsiness or dizziness
 H372 - Causes damage to the following organs through prolonged or repeated exposure: Respiratory system

Precautionary Statements - Prevention

- Wash face, hands and any exposed skin thoroughly after handling
- Do not eat, drink or smoke when using this product
- Wear protective gloves/protective clothing/eye protection/face protection
- Use only outdoors or in a well-ventilated area

- 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.

Precautionary Statements - Response

- For first aid procedure, refer to this SDS.
- Get medical advice/attention if you feel unwell
- IF IN 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/physician
- IF ON SKIN: Wash with plenty of soap and water
- Wash contaminated clothing before reuse
- If skin irritation or rash occurs: Get medical advice/attention
- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
- Call a POISON CENTER or doctor/physician if you feel unwell
- IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
- Rinse mouth.

Precautionary Statements - Storage

- Store in a well-ventilated place. Keep container tightly closed
- Store locked up

Precautionary Statements - Disposal

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

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Single substance or mixture Mixture

Chemical name	Weight-%	ENCS	ISHL No.	CAS No.
Acrylate monomer acrylate oligomer other than the above photopolymerization initiator	70-80	-	-	-
Toluene	<0.5	(3)-2	(3)-2	108-88-3
Xylenes (o-, m-, p- isomers)	<0.1	(3)-60,(3)-3	(3)-60,(3)-3	1330-20-7
Acrylic acid	<1	(2)-984	(2)-984	79-10-7
2-Hydroxyethyl acrylate	23	(2)-995,(2)-958	(2)-995,(2)-958	818-61-1

Pollution Release and Transfer Registry

Class	Chemical Name in Regulation	(Metal Name)	Ordinance Number
First Class Designated Chemical Substances (Law Art. 2-2, Enforcement Order Art. 1 Attached Table No.1)	2-Hydroxyethyl acrylate	-	6

Industrial Safety and Health Law

Law Name	Chemical Name in Regulation	Ordinance Number
Notifiable Substances (Law Art.57-2, Enforcement Order Art.18-2 Item 1, Item 2, Attached Table No.9)	Toluene	407

Poisonous and Deleterious Substances Control Law

SECTION	Chemical Name in Regulation
Poisonous Substances (Designated Ordinance Article 1)	2-Hydroxyethyl acrylate

Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc

Law Name	Chemical Name in Regulation	Ordinance Number
Priority Assessment Chemical Substances (Law Article 2, Para.5)	Toluene	46
Priority Assessment Chemical Substances (Law Article 2, Para.5)	Acrylic acid	94
Priority Assessment Chemical Substances (Law Article 2, Para.5)	Xylene	125

Section 4: FIRST AID MEASURES

Inhalation	Move victim to fresh air If breathing is irregular or stopped, administer artificial respiration Administer oxygen if breathing is difficult
Skin contact	For minor skin contact, avoid spreading material on unaffected skin
Eye contact	In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes
Ingestion	Rinse mouth. Get medical attention.
Self-protection of the first aider	Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.
Note to physicians	Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.

Section 5: FIRE FIGHTING MEASURES

Flammable properties	Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated.
Suitable extinguishing media	Dry chemical, CO2 or water spray Dry chemical, CO2, alcohol-resistant foam or water spray Move containers from fire area if you can do it without risk Dike fire control water for later disposal; do not scatter the material
Specific hazards arising from the chemical	Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.)
Special extinguishing media	Wear protection gear and extinguish from windward.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area) Do not touch damaged containers or spilled material unless wearing appropriate protective clothing Stop leak if you can do it without risk
Environmental precautions	Prevent entry into waterways, sewers, basements or confined areas
Methods for containment	Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers
Prevention of secondary hazards	Keep ignition source away from spill.

Section 7: HANDLING AND STORAGE

Handling	
Precautions for safe handling	
Advice on safe handling	Take equipment measures listed in Section 8. Wear protection gear.
Local and general ventilation	Take equipment measures listed in Section 8. Wear protection gear.
Storage	
Storage conditions	Close lid. Avoid direct sun light and ignition source. Keep appropriate temperature.
Material of vessels and packaging	Keep this product in original container. Do not put it back in the container.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure guidelines

Chemical name	Japan	ISHL Working Environmental Evaluation Standards - Administrative Control Levels	ACGIH TLV
Toluene	TWA: 50 ppm TWA: 188 mg/m ³ Skin ISHL/ACL: 20 ppm	ISHL/ACL: 20 ppm	TWA: 20 ppm
Xylenes (o-, m-, p- isomers)	TWA: 50 ppm TWA: 217 mg/m ³ ISHL/ACL: 50 ppm	ISHL/ACL: 50 ppm	STEL: 150 ppm TWA: 100 ppm
Acrylic acid	-	-	TWA: 2 ppm Skin

Engineering 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
- Hand protection** Wear appropriate protection glove (Made from non-permeable material such as polyethylene, rubber)
- Eye/face protection** Wear safety glasses with side shields (or goggles)
- Skin and body protection** Wear protection apron, protection boots. Wear long sleeve cloth.

Other information

Wash hands thoroughly after handling. When using do not eat, drink or smoke.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Liquid
Odor	Distinct odor
Color	Transparent clear

<u>Property</u>	<u>Values</u>	<u>Remarks</u>
pH	No data available	
Melting point/freezing point	No data available	
Boiling point / boiling range	No data available	
Flash point	114 °C	
Evaporation rate	No data available	
Flammability (solid, gas)		
Flammability limit in air		
Upper flammability limit:	No data available	
Lower flammability limit:	No data available	
Specific gravity	1.10	
Water solubility	Partially miscible	
Autoignition temperature	No data available	
Decomposition temperature	No data available	
Dynamic viscosity	500 mPa·s	

Section 10: STABILITY AND REACTIVITY

Stability	Polymerize by heat and light.
Possibility of hazardous reactions	Polymerize by contacting metals and excluding oxygen. Polymerize by heat and light.
Conditions to avoid	Heat, exposure to light
Incompatible materials	Metals. Strong oxidizing agents.
Hazardous decomposition products	May generate harmful gas by incineration

Section 11: TOXICOLOGICAL INFORMATION

Acute toxicity

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

Inhalation LC50 No data available as this product.

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
Xylenes (o-, m-, p- isomers)	= 3500 mg/kg (Rat)	> 4350 mg/kg (Rabbit) > 1700 mg/kg (Rabbit)	= 29.08 mg/L (Rat) 4 h = 5000 ppm (Rat) 4 h
Acrylic acid	= 33500 µg/kg (Rat) = 193 mg/kg (Rat)	= 295 mg/kg (Rabbit) = 280 µL/kg (Rabbit)	= 3.6 mg/L (Rat) 4 h = 11.1 mg/L (Rat) 1 h
2-Hydroxyethyl acrylate	= 548 mg/kg (Rat)	= 154 mg/kg (Rabbit)	-

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation No data available as this product.

Serious eye damage/eye irritation No data available as this product.

Sensitization No data available as this product.

Germ cell mutagenicity No data available as this product.

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

Chemical name	Japan	IARC
Toluene		Group 3
Xylenes (o-, m-, p- isomers)		Group 3
Acrylic acid		Group 3

Reproductive toxicity No data available as this product.

STOT - single exposure No data available as this product.

STOT - repeated exposure No data available as this product.

Aspiration hazard No data available as this product.

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity

Acute aquatic hazard No data available as this product.

Chronic aquatic hazard No data available as this product.

Ecotoxicity Toxic to aquatic life

Chemical name	Algae/aquatic plants	Fish	Crustacea
Toluene	12.5: 72 h <i>Pseudokirchneriella subcapitata</i> mg/L EC50 static 433: 96 h <i>Pseudokirchneriella subcapitata</i> mg/L EC50	11.0 - 15.0: 96 h <i>Lepomis macrochirus</i> mg/L LC50 static 14.1 - 17.16: 96 h <i>Oncorhynchus mykiss</i> mg/L LC50 static 15.22 - 19.05: 96 h <i>Pimephales promelas</i> mg/L LC50 flow-through 5.89 - 7.81: 96 h <i>Oncorhynchus mykiss</i> mg/L LC50 flow-through 50.87 - 70.34: 96 h <i>Poecilia reticulata</i> mg/L LC50 static 12.6: 96 h <i>Pimephales promelas</i> mg/L LC50 static 28.2: 96 h <i>Poecilia reticulata</i> mg/L LC50	11.5: 48 h <i>Daphnia magna</i> mg/L EC50 5.46 - 9.83: 48 h <i>Daphnia magna</i> mg/L EC50 Static

		semi-static 5.8: 96 h <i>Oncorhynchus mykiss</i> mg/L LC50 semi-static 54: 96 h <i>Oryzias latipes</i> mg/L LC50 static	
Xylenes (o-, m-, p- isomers)	-	13.1 - 16.5: 96 h <i>Lepomis macrochirus</i> mg/L LC50 flow-through 13.5 - 17.3: 96 h <i>Oncorhynchus mykiss</i> mg/L LC50 2.661 - 4.093: 96 h <i>Oncorhynchus mykiss</i> mg/L LC50 static 23.53 - 29.97: 96 h <i>Pimephales promelas</i> mg/L LC50 static 30.26 - 40.75: 96 h <i>Poecilia reticulata</i> mg/L LC50 static 7.711 - 9.591: 96 h <i>Lepomis macrochirus</i> mg/L LC50 static 13.4: 96 h <i>Pimephales promelas</i> mg/L LC50 flow-through 19: 96 h <i>Lepomis macrochirus</i> mg/L LC50 780: 96 h <i>Cyprinus carpio</i> mg/L LC50 semi-static 780: 96 h <i>Cyprinus carpio</i> mg/L LC50	0.6: 48 h <i>Gammarus lacustris</i> mg/L LC50 3.82: 48 h water flea mg/L EC50
Acrylic acid	0.04: 72 h <i>Desmodesmus subspicatus</i> mg/L EC50 0.17: 96 h <i>Pseudokirchneriella subcapitata</i> mg/L EC50	222: 96 h <i>Brachydanio rerio</i> mg/L LC50 semi-static	270: 24 h <i>Daphnia magna</i> mg/L LC50 Static 95: 48 h <i>Daphnia magna</i> mg/L EC50
2-Hydroxyethyl acrylate	-	4.8: 96 h <i>Pimephales promelas</i> mg/L LC50 flow-through	0.78: 48 h <i>Daphnia magna</i> mg/L EC50

Persistence and degradability No data available as this product.

Bioaccumulation

No data available as this product.

Component Information

Chemical name	Partition coefficient
Toluene	2.7
Xylenes (o-, m-, p- isomers)	2.77 - 3.15
Acrylic acid	0.38 - 0.46
2-Hydroxyethyl acrylate	0.21

Endocrine disruptor information No data available as this product.

Section 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.

Section 14: TRANSPORT INFORMATION

IMDG Not regulated

ICAO/IATA (air) Not regulated

ADR Not regulated

Japanese regulations

Marine Transportation Safety Act Not applicable

Civil Aeronautics Act Not applicable

Section 15: REGULATORY INFORMATION

<u>Fire protection law criteria</u>	Group 4 - Petroleums - 3rd Class(not Water solubility)
<u>Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc</u>	Priority Assessment Chemical Substances (Law Article 2, Para.5)
<u>Industrial Safety and Health Law</u>	Notifiable Substances (Law Art.57-2, Enforcement Order Art.18-2 Item 1, Item 2, Attached Table No.9) Mutagens - Existing Chemicals (Law Art.57-5, Labor Standard Bureau Official Notice No. 51 of 1992) Working Environment Evaluation Standards, Administrative Control Levels (Law Art.65-2, Para.1) Dangerous Substances - Flammable Substance (Enforcement Order Attached Table 1 Item 4)
<u>Poisonous and Deleterious Substances Control Law</u>	Poisonous Substances (Designated Ordinance Article 1)
<u>Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof</u>	First Class Designated Chemical Substances (Law Art. 2-2, Enforcement Order Art. 1 Attached Table No.1)

Section 16: OTHER INFORMATION

Issue date	10-Feb-2015
Other information	Please contact to local sales offices for further information. Manufacturer ThreeBond Fine Chemical Co., Ltd. 1-1 Oyama-cho, Midori-ku Sagamihara-shi, Kanagawa 252-0146 Japan TEL 81-42-774-1333

Key literature references and sources for data

- JIS Z 7253:2012 Hazard communication of chemicals based on GHS-Labeling and Safety Data Sheet (SDS)
- JIS Z 7252:2014 Classification of chemicals based on "Globally Harmonized System of Classification and Labeling of Chemicals (GHS)"

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