ThreeBond

SAFETY DATA SHEET

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

Issuing Date 15-Jun-2021
Revision date 01-Dec-2023
Revision Number 2

1. Identification

Product Name ThreeBond 1702

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

Flammable liquids	Category 4
Acute toxicity - Oral	Classification not possible
Acute toxicity - Dermal	Classification not possible
Acute toxicity - Inhalation (Gases)	Classification not applicable
Acute toxicity - Inhalation (Vapors)	Category 2
Acute toxicity - Inhalation (Dusts/Mists)	Classification not possible
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2B
Respiratory sensitization	Category 1
Skin sensitization	Category 1
Germ cell mutagenicity	Category 1B
Carcinogenicity	Classification not possible
Reproductive toxicity	Classification not possible
Effects on or via lactation	Classification not possible
Specific target organ toxicity (single exposure)	Category 3
Category 3 Target organ effects: Respiratory irritation.	
Specific target organ toxicity (repeated exposure)	Classification not possible
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

H227 - Combustible liquid
H330 - Fatal if inhaled
H315 - Causes skin irritation
H320 - Causes eye irritation
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
H317 - May cause an allergic skin reaction
H340 - May cause genetic defects
H335 - May cause respiratory irritation
H412 - Harmful to aquatic life with long lasting effects

Precautionary statements

Prevention

• Do not handle until all safety precautions have been read and understood
• Wear protective gloves/protective clothing/eye protection/face protection
• Do not breathe dust/fume/gas/mist/vapors/spray
• Use only outdoors or in a well-ventilated area
• Wash face, hands and any exposed skin thoroughly after handling
• In case of inadequate ventilation wear respiratory protection
• Contaminated work clothing should not be allowed out of the workplace
• Avoid release to the environment
• Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
• Obtain special instructions or technical data sheet before use

Response

• IF exposed or concerned: Get medical advice/attention
• Specific treatment is urgent (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

Inhalation

• IF INHALED: Remove person to fresh air and keep comfortable for breathing
• Immediately call a POISON CENTER or doctor
• If experiencing respiratory symptoms: Call a POISON CENTER or doctor

Fire

• In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish

Storage

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

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.
Hydroquinone	123-31-9	0.1-<1	(3)-543	(3)-543
Methyl 2-cyanoacrylate	137-05-3	90-<99	(2)-2789	(2)-2789

This product contains ≥0.1 - <1.0% of substance (s) that are classified for Carcinogenicity 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
Hydroquinone	Hydroquinone	123-31-9	
Methyl 2-cyanoacrylate	Methyl 2-cyanoacrylate	137-05-3	

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
Hydroquinone	Hydroquinone	123-31-9	
Methyl 2-cyanoacrylate	Methyl 2-cyanoacrylate	137-05-3	

Poisonous and Deleterious Substances Control Law
Not applicable

Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. (CSCL)
The table below indicates ingredients above the cut-off threshold considered as relevant which are listed

Chemical name	CAS No.	Chemical Substances Control Law
Hydroquinone	123-31-9	Priority assessment chemical substance

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. 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. If breathing is difficult, (trained personnel should) give oxygen. May cause allergic respiratory reaction. If breathing has stopped, give artificial respiration. Get medical attention immediately. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Get immediate medical advice/attention.

In case of skin contact Soak skin in warm water. Gently remove material from skin. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a physician.

In case of eye contact Repeatedly wash with water. See doctor. Do not rub eye, nor use organic solvents, remover. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

In case of ingestion	Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. May produce an allergic reaction. Get immediate medical advice/attention.
Most important symptoms/effects, acute and delayed	Coughing and/ or wheezing. Difficulty in breathing. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Itching. Rashes. Hives.
Self-protection of the first aider	Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Do not breathe vapor or mist. 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. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing.
Note to physicians	May cause sensitization in susceptible persons. Treat symptomatically.

5. Fire-fighting measures

Suitable Extinguishing Media	Dry chemical. Carbon dioxide (CO2). Water spray. Alcohol resistant foam.
Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.
Specific hazards arising from the chemical	Keep product and empty container away from heat and sources of ignition. Product is or contains a sensitizer. May cause sensitization by inhalation. May cause sensitization by skin contact. In the event of fire, cool container with water spray.
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	Evacuate personnel to safe areas. Use personal protective equipment as required. See section 8 for more information. Take precautionary measures against static discharges. Do not touch or walk through spilled material. Ensure adequate ventilation. Avoid contact with skin, eyes or clothing. Do not breathe vapor or mist. Keep people away from and upwind of spill/leak.
For emergency responders	Use personal protection recommended in Section 8.
Environmental precautions	Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so. Should not be released into the environment. Do not allow to enter into soil/subsoil. Prevent product from entering drains.
Methods for containment	Stop leak if you can do it without risk. Do not touch or walk through spilled material. Dike far ahead of liquid spill for later disposal.
Methods for cleaning up	Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. 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. Use personal protection equipment. Do not breathe vapor or mist. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharges. Avoid contact with skin, eyes or clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Remove contaminated clothing and shoes.

Hygiene Measures

Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes or clothing. Do not breathe vapor or mist. Wear suitable gloves and eye/face protection. Remove and wash contaminated clothing and gloves, including the inside, before re-use.

Storage

Storage Conditions

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labeled containers. Store in accordance with the particular national regulations. Store in accordance with local regulations. 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
Hydroquinone 123-31-9	-	-	dermal sensitizer TWA: 1 mg/m^3	1 mg/m^3	-
Methyl 2-cyanoacrylate 137-05-3	-	-	dermal sensitizer;respiratory sensitizer STEL: 1 ppm TWA: 0.2 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	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. 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	Transparent clear
Odor	Irritating 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	88 °C	
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	35 mPa･s	
Water solubility	Slightly soluble	
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	1.1	
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 Rapid polymerization could occur.

Possibility of hazardous reactions May cause rapid polymerization reaction by heat, high humidity, or direct sun light.

Conditions to avoid Direct sunlight. High humidity. Heat.

Incompatible materials Bases. Water.

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 (inhalation-vapor) 0.574 mg/l

Unknown acute toxicity

1.86422 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

Numerical measures of toxicity - Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Hydroquinone	= 298 mg/kg (Rat)	= 74800 mg/kg (Rabbit)	-
Methyl 2-cyanoacrylate	= 1.6 g/kg (Rat)	-	= 101 ppm (Rat) 6 h

Abbreviations and acronyms

Rat: Rat

Rabbit: Rabbit

Symptoms Coughing and/ or wheezing. Difficulty in breathing. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, or flushing. 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. May cause additional affects as listed under "Inhalation". Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Inhalation Specific test data for the substance or mixture is not available. Fatal if inhaled. (based on components). May cause sensitization in susceptible persons. May cause irritation of respiratory tract.

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). May cause sensitization by skin contact. Causes skin irritation.

Eye contact Specific test data for the substance or mixture is not available. Causes eye irritation. 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 eye irritation.

Respiratory or skin sensitization No data available. May cause an allergic skin reaction.

Germ cell mutagenicity Contains a known or suspected mutagen. Classification based on data available for ingredients. May cause genetic defects.

Carcinogenicity

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

Chemical name	Japan	IARC
Hydroquinone 123-31-9	2	Group 3

Legend

IARC (International Agency for Research on Cancer)
Group 3 - Not Classifiable as to Carcinogenicity in Humans

STOT - single exposure May cause respiratory irritation.

12. Ecological information

Ecotoxicity Harmful to aquatic life with long lasting effects.

Chemical name	Algae/aquatic plants	Fish	Crustacea
Hydroquinone	EC50: =0.335mg/L (72h, Pseudokirchneriella subcapitata)	LC50: =0.044mg/L (96h, Oncorhynchus mykiss) LC50: =0.044mg/L (96h, Pimephales promelas) LC50: 0.1 - 0.18mg/L (96h, Pimephales promelas) LC50: =0.17mg/L (96h, Brachydanio rerio)	EC50: =0.29mg/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
Hydroquinone 123-31-9	0.5

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

UN number or ID number	UN2810
UN proper shipping name	Toxic liquid, organic, n.o.s.
Description	UN2810, Toxic liquid, organic, n.o.s.6.1, II
Transport hazard class(es)	6.1
Packing group	II
Marine pollutant	NP
EmS-No.	F-A, S-A
Special Provisions	274

ADR

UN number or ID number	2810
UN proper shipping name	Toxic liquid, organic, n.o.s.
Description	2810, Toxic liquid, organic, n.o.s., 6.1, II, (D/E)
Transport hazard class(es)	6.1
Packing group	II
ERG Code	6L
Special Provisions	274, 614

IATA

UN number or ID number	UN2810
UN proper shipping name	Toxic liquid, organic, n.o.s.
Description	UN2810, Toxic liquid, organic, n.o.s., 6.1, II
Transport hazard class(es)	6.1
Packing group	II
Special Provisions	A3, A4, A137

Japan

UN number or ID number	UN2810
UN proper shipping name	Toxic liquid, organic, n.o.s.
Description	UN2810, Toxic liquid, organic, n.o.s. (), 6.1, II
Transport hazard class(es)	6.1
Packing group	II
Special Provisions	274

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)
The table below indicates ingredients above the cut-off threshold considered as relevant which are listed

Chemical name	CAS No.	Chemical Substances Control Law
Hydroquinone	123-31-9	Priority assessment chemical substance

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	15-Jun-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.