ThreeBond

SAFETY DATA SHEET

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

Issuing Date 16-Sep-2021
Revision date 08-Nov-2023
Revision Number 2

1. Identification

Product Name ThreeBond 1401D

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 2
Acute toxicity - Oral	Category 4
Acute toxicity - Dermal	Category 4
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	Classification not possible
Serious eye damage/eye irritation	Category 2A
Respiratory sensitization	Classification not possible
Skin sensitization	Classification not possible
Germ cell mutagenicity	Classification not possible
Carcinogenicity	Category 1B
Reproductive toxicity	Category 1B
Effects on or via lactation	Classification not possible
Specific target organ toxicity (single exposure)	Category 1, Category 3
Category 1 Central nervous system, visual organs, systemic toxicity.	
Category 3 Target organ effects: Respiratory irritation, Narcotic effects.	
Specific target organ toxicity (repeated exposure)	Category 1
Category 1 Central nervous system, visual organs.	
Aspiration hazard	Classification not possible
Acute aquatic toxicity	Classification not possible
Chronic aquatic toxicity	Classification not possible

Ozone	Classification not possible

GHS label elements

Signal word Danger

Hazard statements

H225 - Highly flammable liquid and vapor
H302 - Harmful if swallowed
H312 - Harmful in contact with skin
H319 - Causes serious eye irritation
H350 - May cause cancer
H360 - May damage fertility or the unborn child
H335 - May cause respiratory irritation
H336 - May cause drowsiness or dizziness
H370 - Causes damage to organs
H372 - Causes damage to organs through prolonged or repeated exposure
Causes damage to the following organs: Central nervous system, visual organs, systemic toxicity.
Causes damage to the following organs through prolonged or repeated exposure: Central nervous system, visual organs.

Precautionary statements

Prevention

• Do not handle until all safety precautions have been read and understood
• Wear protective gloves/protective clothing/eye protection/face protection
• Wash face, hands and any exposed skin thoroughly after handling
• Do not eat, drink or smoke when using this product
• Do not breathe dust/fume/gas/mist/vapors/spray
• Use only outdoors or in a well-ventilated area
• Ground and bond container and receiving equipment
• Use non-sparking tools
• Take action to prevent static discharges
• Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
• Keep container tightly closed
• Keep cool
• Obtain special instructions or technical data sheet before use
• Use explosion-proof electrical/ ventilating/ lighting/ equipment

Response

• IF exposed or concerned: Get medical advice/attention
• IF exposed or concerned: Call a POISON CENTER or doctor
• 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

Ingestion

• IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell
• Rinse mouth

Skin

• IF ON SKIN: Wash with plenty of water and soap
• Take off contaminated clothing and wash it before reuse
• IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]

Inhalation

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

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.
Vinyl acetate	108-05-4	0.1-<1	(2)-728	(2)-728
Methyl alcohol	67-56-1	85	(2)-201	(2)-201
Modified vinyl acetate resin	-	10-<20		

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
Vinyl acetate	Vinyl acetate	108-05-4	
Methyl alcohol	Methanol	67-56-1	

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
Methyl alcohol	Methanol	67-56-1	

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. IF exposed or concerned: Get medical advice/attention.

In case of inhalation Remove to fresh air. IF exposed or concerned: Get medical advice/attention.

In case of skin contact Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms persist, call a physician.

In case of eye contact 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. If symptoms persist, call a physician. 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. Call a physician.
Most important symptoms/effects, acute and delayed	May cause redness and tearing of the eyes. Burning sensation. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.
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. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing.
Note to physicians	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	Risk of ignition. Keep product and empty container away from heat and sources of ignition. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. In the event of fire, cool container with water spray.
Hazardous combustion products	Carbon monoxide. Carbon dioxide (CO2).
Flammable properties	HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Containers may explode when heated. Many liquids are lighter than water.
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. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material.
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. 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. A vapor suppressing foam may be used to reduce vapors. Dike far ahead of spill to collect runoff water. Keep out of drains, sewers, ditches and waterways. Absorb with earth, sand or other non-combustible material and transfer to containers 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 Ventilate the area. 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. Avoid breathing vapors or mists. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use grounding and bonding connection when transferring this material to prevent static discharge, fire or explosion. Use with local exhaust ventilation. Use spark-proof tools and explosion-proof equipment. Keep in an area equipped with sprinklers. Use according to package label instructions. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Remove contaminated clothing and shoes. In case of insufficient ventilation, wear suitable respiratory equipment.

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. Wear suitable gloves and eye/face protection.

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. Do not store near combustible materials. Keep in an area equipped with sprinklers. Store in accordance with the particular national regulations. Store in accordance with local regulations. Keep out of the reach of children. Store locked up.

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
Vinyl acetate 108-05-4	-	-	STEL: 15 ppm TWA: 10 ppm	10 ppm	15 ppm
Methyl alcohol 67-56-1	TWA: 200 ppm TWA: 260 mg/m^3 S*	200 ppm	STEL: 250 ppm TWA: 200 ppm S*	-	-

Biological monitoring indicator

Chemical name	Japan Society of Occupational Health	ACGIH
Methyl alcohol 67-56-1	20 mg/L - urine (Methanol) - end of shift	15 mg/L - urine (Methanol) - 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.

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. Chemical resistant apron. Antistatic boots.

9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state	Liquid
Color	Transparent green
Odor	Alcohol 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	9 °C	
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	19 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	0.84	
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 React with strong oxidizing agent. Could cause fire.

Conditions to avoid Heat.

Incompatible materials Strong oxidizing agents.

Hazardous decomposition products May generate harmful gas by incineration. Carbon monoxide. Carbon dioxide (CO2).

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) 502.90 mg/kg
ATEmix (dermal) 1,408.20 mg/kg

Unknown acute toxicity
14.82568 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
14.82568 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

Numerical measures of toxicity - Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Vinyl acetate	= 2900 mg/kg (Rat)	= 2335 mg/kg (Rabbit)	= 3680 ppm (Rat) 4 h
Methyl alcohol	= 6200 mg/kg (Rat)	= 15840 mg/kg (Rabbit)	= 22500 ppm (Rat) 8 h

Abbreviations and acronyms
Rat: Rat
Rabbit: Rabbit

Symptoms May cause redness and tearing of the eyes. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

Product Information

Ingestion Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Harmful if swallowed. (based on components).

Inhalation Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract. May cause drowsiness or dizziness.

Skin contact Specific test data for the substance or mixture is not available. May cause irritation. Prolonged contact may cause redness and irritation. May be absorbed through the skin in harmful amounts. Harmful in contact with skin. (based on components).

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.

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

Carcinogenicity Contains a known or suspected carcinogen. Classification based on data available for ingredients. May cause cancer.

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

Chemical name	Japan	IARC
Vinyl acetate 108-05-4	1B	Group 2B

Legend

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

Reproductive toxicity Classification based on data available for ingredients. May damage fertility or the unborn child.

Target organ effects Central nervous system. Eyes. Gastrointestinal tract. Respiratory system. Skin.

STOT - single exposure Based on the classification criteria of the Globally Harmonized System as adopted in the country or region with which this safety data sheet complies, this product has been determined to cause systemic target organ toxicity from acute exposure. (STOT SE). Causes damage to organs if swallowed. Causes damage to organs in contact with skin. May cause respiratory irritation. May cause drowsiness or dizziness.

Causes damage to the following organs: Central nervous system, visual organs, systemic toxicity.

STOT - repeated exposure Causes damage to organs through prolonged or repeated exposure.

Causes damage to the following organs through prolonged or repeated exposure: Central nervous system, visual organs.

12. Ecological information

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

Chemical name	Algae/aquatic plants	Fish	Crustacea

Vinyl acetate	-	LC50: =14mg/L (96h, Pimephales promelas) LC50: 15.04 - 21.54mg/L (96h, Lepomis macrochirus) LC50: 26.1 - 36.63mg/L (96h, Poecilia reticulata)	-
Methyl alcohol	-	LC50: =28200mg/L (96h, Pimephales promelas) LC50: >100mg/L (96h, Pimephales promelas) LC50: 19500 - 20700mg/L (96h, Oncorhynchus mykiss) LC50: 18 - 20mL/L (96h, Oncorhynchus mykiss) LC50: 13500 - 17600mg/L (96h, Lepomis macrochirus)	-

Percentage for unknown hazards 0.01 % 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
Vinyl acetate 108-05-4	0.73
Methyl alcohol 67-56-1	-0.77

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 UN1133
UN proper shipping name Adhesives
Description UN1133, Adhesives, 3, II, (9°C c.c.)
Transport hazard class(es) 3
Packing group II
Marine pollutant NP
EmS-No. F-E, S-D

ADR

UN number or ID number	UN1133
UN proper shipping name	Adhesives
Description	UN1133, Adhesives, 3, II, (D/E)
Transport hazard class(es)	3
Packing group	II
ERG Code	3L
Special Provisions	640C

IATA

UN number or ID number	UN1133
UN proper shipping name	Adhesives
Description	UN1133, Adhesives, 3, II
Transport hazard class(es)	3
Packing group	II
Special Provisions	A3
ERG Code	3L

Japan

UN number or ID number	UN1133
UN proper shipping name	Adhesives
Description	UN1133, Adhesives, 3, II
Transport hazard class(es)	3
Packing group	II

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

Harmful Substances Requiring Workers to Subject to Medical Exams

Medical Examination - Industrial Safety and Health Law article 66, enforcement order article 22, and the Ordinance on Prevention of Hazards Due to Specified Chemical Substances, Table 5

Ordinance on Prevention of Organic Solvent Poisoning

Organic solvents class 2 - Industrial Safety and Health Law enforcement order Table 6-2 (related to article 6, article 21, article 22, and the Ordinance on Prevention of Organic Solvent Poisoning)

Dangerous Substances

Industrial Safety and Health Law enforcement order Table 1 (related to article 6 and article 9-3)
Flammable substance

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

New chemical substances with mutagenicity recognized (Article 57-3, Paragraph 1 of the Industrial Safety and Health Law).

Carcinogenic substances

Chemical substances specified by the Minister of Health, Labor and Welfare based on the provisions of Article 577-2, Paragraph 3 of the Ordinance on Industrial Safety and Health

Chemical name	CAS No.
Vinyl acetate	108-05-4

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, 1st class petroleums, water-insoluble, hazard rank II, 200 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	16-Sep-2021
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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.