ThreeBond

SAFETY DATA SHEET

Issue date 06-Feb-2017 **Revision Date** 29-Jul-2019 **Version** 4

Section 1: PRODUCT AND COMPANY IDENTIFICATION

Product identifier
Product name ThreeBond 1401B

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

Flammable liquids	Category 2
Serious eye damage/eye irritation	Category 2
Reproductive Toxicity	Category 1A
Specific target organ toxicity (single exposure)	Category 1
Category 1 Central nervous system retina systemic toxicity	
Category 3 Respiratory irritation, Narcotic effects.	
Specific target organ toxicity (repeated exposure)	Category 1
Category 1 Central nervous system, retina	
Category 2 kidneys.	

Label elements

Signal word Danger

Hazard statements
H225 - Highly flammable liquid and vapor
H302 - Harmful if swallowed
H319 - Causes serious eye irritation
H331 - Toxic if inhaled
H360 - May damage fertility or the unborn child
H370 - Causes damage to organs
H372 - Causes damage to organs through prolonged or repeated exposure
H335 - May cause respiratory irritation
H336 - May cause drowsiness or dizziness
H370 - Causes damage to the following organs: Central nervous system retina systemic toxicity
H372 - Causes damage to the following organs through prolonged or repeated exposure: Central nervous system retina
H373 - May cause damage to the following organs through prolonged or repeated exposure: kidneys

Precautionary Statements - Prevention
• Obtain special instructions before use
• Do not handle until all safety precautions have been read and understood

• Use personal protective equipment as required
• Wash face, hands and any exposed skin thoroughly after handling
• Do not breathe dust/fume/gas/mist/vapors/spray
• Do not eat, drink or smoke when using this product
• Keep away from heat/sparks/open flames/hot surfaces. — No smoking
• Keep container tightly closed
• Ground/bond container and receiving equipment
• Use explosion-proof electrical/ventilating/lighting/equipment
• Use only non-sparking tools
• Take precautionary measures against static discharge

Precautionary Statements - Response

• IF exposed: Call a POISON CENTER or doctor/physician
• For first aid procedure, refer to this SDS.
• IF IN 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
• IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
• In case of fire: Use CO_2, dry chemical, or foam for extinction

Precautionary Statements - Storage

• Store locked up
• Store in a well-ventilated place. Keep cool

Precautionary Statements - Disposal

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

Other hazards

• Causes mild skin irritation

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Single substance or mixture Mixture

Chemical name	Weight-%	ENCS	ISHL No.	CAS No
Vinyl acetate	0.1-<1	(2)-728	(2)-728	108-05-4
Toluene	1.3	(3)-2	(3)-2 2-(8)-869	108-88-3
Methyl alcohol	65-<75	(2)-201	(2)-201	67-56-1
Modified vinyl acetate resin	25-<35	-	-	-

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)	Toluene	-	300

Industrial Safety and Health Law

Law Name	Chemical Name in Regulation	Ordinance Number
Harmful Substances Whose Names Are to be Indicated on the Label (Law Art.57, Para.1, Enforcement Order Art.18 Item 1, Item 2, Attached Table No.9)	Toluene	407
Harmful Substances Whose Names Are to be Indicated on the Label (Law Art.57, Para.1, Enforcement Order Art.18 Item 1, Item 2, Attached Table No.9)	Methanol	560
Notifiable Substances (Law Art.57-2, Enforcement Order Art.18-2 Item 1, Item 2, Attached Table No.9)	Acetic acid, vinyl ester	180
Notifiable Substances (Law Art.57-2, Enforcement Order Art.18-2 Item 1, Item 2, Attached Table No.9)	Toluene	407
Notifiable Substances (Law Art.57-2, Enforcement Order Art.18-2 Item 1, Item 2, Attached Table No.9)	Methanol	560

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)	Acetic acid, vinyl ester	28
Priority Assessment Chemical Substances (Law Article 2, Para.5)	Toluene	46
Priority Assessment Chemical Substances (Law Article 2, Para.5)	Methanol	90

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 Wash skin with soap and water

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	Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Keep victim warm and quiet.

Section 5: FIRE FIGHTING MEASURES

Flammable properties	HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Containers may explode when heated. Many liquids are lighter than water. Flammable liquid.
Suitable extinguishing media	Dry chemical, CO2, water spray or alcohol-resistant foam Move containers from fire area if you can do it without risk Dike fire control water for later disposal; do not scatter the material Use water spray or fog; do not use straight streams Water spray, fog or alcohol-resistant foam
Unsuitable extinguishing media	CAUTION: All these products have a very low flash point. Use of water spray when fighting fire may be inefficient.
Specific hazards arising from the chemical	Vapors may form explosive mixtures with air Vapors may travel to source of ignition and flash back Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks) Vapor explosion hazard indoors, outdoors or in sewers Runoff to sewer may create fire or explosion hazard Those substances designated with a "P" may polymerize explosively when heated or involved in a fire Flammable
Hazardous combustion products	Carbon monoxide Carbon dioxide (CO2)
Special extinguishing media	Wear protection gear and extinguish from windward.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Full encapsulating, vapor protective clothing should be worn for spills and leaks with no fire ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area) All equipment used when handling the product must be grounded Do not touch or walk through spilled material Stop leak if you can do it without risk Remove all sources of ignition Use personal protective equipment as required
Environmental precautions	Prevent entry into waterways, sewers, basements or confined areas Do not flush into surface water or sanitary sewer system See Section 12 for additional ecological information
Methods for containment	A vapor suppressing foam may be used to reduce vapors Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal
Methods for cleaning up	Use clean non-sparking tools to collect absorbed material. Dike far ahead of liquid spill for later disposal. Soak up with inert absorbent material.
Prevention of secondary hazards	Keep ignition source away from spill.

Section 7: HANDLING AND STORAGE

Handling

Precautions for safe handling

Advice on safe handling	Avoid contact with skin, eyes or clothing Do not eat, drink or smoke when using this product
Local and general ventilation	Take equipment measures listed in Section 8. Wear protection gear.

Storage

Storage conditions	Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity)
Material of vessels and	Keep this product in original container. Do not put it back in the container.

packaging

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure guidelines

Chemical name	Japan	ISHL Working Environmental Evaluation Standards - Administrative Control Levels	ACGIH TLV
Vinyl acetate	-	-	STEL: 15 ppm TWA: 10 ppm
Toluene	TWA: 50 ppm TWA: 188 mg/m^3 Skin ISHL/ACL: 20 ppm	ISHL/ACL: 20 ppm	TWA: 20 ppm
Methyl alcohol	TWA: 200 ppm TWA: 260 mg/m^3 Skin ISHL/ACL: 200 ppm	ISHL/ACL: 200 ppm	STEL: 250 ppm TWA: 200 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

- O **Respiratory protection** In case of inadequate ventilation wear respiratory protection
- O **Hand protection** Wear appropriate protection glove (Made from non-permeable material such as polyethylene, rubber)
- O **Eye/face protection** Wear safety glasses with side shields (or goggles)
- O **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 Alcohol odor
Color Blue-Bluish green

Property	Values	Remarks
pH	No data available	
Melting point/freezing point	No data available	
Boiling point / boiling range	64 °C or above	
Flash point	9 °C	Seta closed cup
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	0.88	
Water solubility	Partially miscible	
Autoignition temperature	No data available	
Decomposition temperature	No data available	
Dynamic viscosity	350 mPa•s	

Section 10: STABILITY AND REACTIVITY

Stability Stable under normal conditions.

Possibility of hazardous reactions React with strong acid. Could cause fire.

Conditions to avoid Heat Heat, flames and sparks

Incompatible materials 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
Vinyl acetate	= 2900 mg/kg (Rat)	= 2335 mg/kg (Rabbit)	= 11.4 mg/L (Rat) 4 h = 3680 ppm (Rat) 4 h
Toluene	= 2600 mg/kg (Rat)	= 12000 mg/kg (Rabbit)	= 12.5 mg/L (Rat) 4 h
Methyl alcohol	= 6200 mg/kg (Rat)	= 15800 mg/kg (Rabbit) = 15840 mg/kg (Rabbit)	= 22500 ppm (Rat) 8 h = 64000 ppm (Rat) 4 h

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 This product contains one or more substances which are classified by IARC as carcinogenic to humans (Group I), probably carcinogenic to humans (Group 2A) or possibly carcinogenic to humans (Group 2B)

Chemical name	Japan	IARC
Vinyl acetate	2	Group 2B
Toluene		Group 3

IARC (International Agency for Research on Cancer)
Group 2B - Possibly Carcinogenic to Humans
Not classifiable as a human carcinogen

Reproductive toxicity Product is or contains a chemical which is a known or suspected reproductive hazard

STOT - single exposure No data available as this product.

STOT - repeated exposure No data available as this product.

Target organ effects Central nervous system, Eyes, Gastrointestinal tract (GI), kidney, liver, Respiratory system, Skin.

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.

Chemical name	Algae/aquatic plants	Fish	Crustacea
Vinyl acetate	-	*15.04 - 21.54: 96 h Lepomis macrochirus mg/L LC50 static 26.1 - 36.63: 96 h Poecilia*	*52: 24 h Daphnia magna mg/L EC50*

		reticulata mg/L LC50 static 14: 96 h Pimephales promelas mg/L LC50 static	
Toluene	*12.5: 72 h Pseudokirchneriella subcapitata mg/L EC50 static 433: 96 h Pseudokirchneriella subcapitata mg/L EC50*	*11.0 - 15.0: 96 h Lepomis macrochirus mg/L LC50 static 14.1 - 17.16: 96 h Oncorhynchus mykiss mg/L LC50 static 15.22 - 19.05: 96 h Pimephales promelas mg/L LC50 flow-through 5.89 - 7.81: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 50.87 - 70.34: 96 h Poecilia reticulata mg/L LC50 static 12.6: 96 h Pimephales promelas mg/L LC50 static 28.2: 96 h Poecilia reticulata mg/L LC50 semi-static 5.8: 96 h Oncorhynchus mykiss mg/L LC50 semi-static 54: 96 h Oryzias latipes mg/L LC50 static*	*11.5: 48 h Daphnia magna mg/L EC50 5.46 - 9.83: 48 h Daphnia magna mg/L EC50 Static*
Methyl alcohol	-	*13500 - 17600: 96 h Lepomis macrochirus mg/L LC50 flow-through 18 - 20: 96 h Oncorhynchus mykiss mL/L LC50 static 19500 - 20700: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 28200: 96 h Pimephales promelas mg/L LC50 flow-through 100: 96 h Pimephales promelas mg/L LC50 static*	-

Persistence and degradability No data available as this product.

Bioaccumulation
No data available as this product.
Component Information

Chemical name	Partition coefficient
Vinyl acetate	0.73
Toluene	2.7
Methyl alcohol	-0.77

Endocrine disruptor information

Chemical name	EU - Endocrine Disrupters Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Endocrine disrupting potential
Vinyl acetate	Group III Chemical	-	-

Section 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.

Section 14: TRANSPORT INFORMATION

IMDG

UN/ID No. UN1992
Proper shipping name FLAMMABLE LIQUID, TOXIC, N.O.S.
Hazard class 3
Subsidiary hazard class 6.1

Packing group	II
EmS-No	F-E, S-D

ICAO/IATA (air)

UN/ID No.	UN1992
Proper shipping name	FLAMMABLE LIQUID, TOXIC, N.O.S.
Hazard class	3
Subsidiary hazard class	6.1
Packing group	II

ADR

UN/ID No.	UN1992
Proper shipping name	FLAMMABLE LIQUID, TOXIC, N.O.S.
Hazard class	3
Labels	6.1
Packing group	II
ERG code	3HP

Japanese regulations

UN Number	UN1992
Proper shipping name	FLAMMABLE LIQUID, TOXIC, N.O.S.
Hazard class	3
Subsidiary hazard class	6.1
Packing group	II
Marine Transportation Safety Act	Flammable Liquids (Ministry of Transportation Ordinance Regarding Transport by Ship and Storage, Ordinance Art.3, Attached Table 1)
Civil Aeronautics Act	Flammable Liquids (MITL Notification for Air Transportation of Explosives etc., Ordinance Art.194, Attached Table 1)

Section 15: REGULATORY INFORMATION

Fire protection law criteria Group 4 - Petroleums - 1st Class(not Water solubility)

Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc Priority Assessment Chemical Substances (Law Article 2, Para.5)

Industrial Safety and Health Law Harmful Substances Whose Names Are to be Indicated on the Label (Law Art.57, Para.1, Enforcement Order Art.18 Item 1, Item 2, Attached Table No.9)
Notifiable Substances (Law Art.57-2, Enforcement Order Art.18-2 Item 1, Item 2, Attached Table No.9)
Mutagenic New Chemical Substances (Act, Art.57-4, Official Notice by Director of Labor Standards Bureau)
Working Environment Evaluation Standards, Administrative Control Levels (Law Art.65-2, Para.1)
Dangerous Substances - Flammable Substance (Enforcement Order Attached Table 1 Item 4)
Class 2 Organic Solvents (Enforcement Order Attached Table No.6-2, Ordinance on Prevention of Organic Solvent Poisoning Art.1, Para.1, Item 4)

Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof First Class Designated Chemical Substances (Law Art. 2-2, Enforcement Order Art. 1 Attached Table No.1)

Section 16: OTHER INFORMATION

Issue date 06-Feb-2017

Other information Please contact to local sales offices for further information.

Key literature references and sources for data

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

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