ThreeBond

SAFETY DATA SHEET

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

Issuing Date 21-Sep-2021
Revision date 15-Mar-2023
Revision Number 2

1. Identification

Product Name ThreeBond 1910

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 Antirust, lubricant

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

Aerosols	Category 1
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	Classification not possible
Serious eye damage/eye irritation	Classification not possible
Respiratory sensitization	Classification not possible
Skin sensitization	Classification not possible
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)	Category 1, Category 3
Category 1 circulatory system.	
Category 3 Target organ effects: Narcotic effects.	
Specific target organ toxicity (repeated exposure)	Category 1
Category 1 Central nervous system.	
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

H222 - Extremely flammable aerosol
H229 - Pressurized container: May burst if heated
H370 - Causes damage to organs
H336 - May cause drowsiness or dizziness
H372 - Causes damage to organs through prolonged or repeated exposure
Causes damage to the following organs: circulatory system.
Causes damage to the following organs through prolonged or repeated exposure: Central nervous system.

Precautionary statements

Prevention

• Do not breathe dust/fume/gas/mist/vapors/spray
• Wash face, hands and any exposed skin thoroughly after handling
• Do not eat, drink or smoke when using this product
• Use only outdoors or in a well-ventilated area
• Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
• Do not pierce or burn, even after use
• Do not spray on an open flame or other ignition source

Response

• IF exposed or concerned: Call a POISON CENTER or doctor
• Get medical advice/attention if you feel unwell
• Specific treatment (see section 4 on this SDS)

Inhalation

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

Storage

• Store locked up
• Store in a well-ventilated place. Keep container tightly closed
• Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F

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
Molybdenum(IV) sulfide	1317-33-5	16	(1)-481	(1)-481
Pentane	-	1-<5		
Butane	-	45-<55		
Lubricant oil, graphite	-	15-<25		
Propane	-	1-<10		

Until March 31, 2023 Pollutant Release and Transfer Register (PRTR)
The amount of the relevant substance in certain cases referenced in article 4(i)(a) or 4(i)(b) of the Enforcement Order of the Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof (PRTR Act) is calculated based on the conversion factors shown (with safety factor = 1 in cases where conversion factor information is not available)

Class I designated chemical substance	Weight-%
Molybdenum and its compounds, as Mo	9.3

Chemical name	Cabinet order name	Metal, CN, F, etc	Conversion coefficient	Content rate %	Category	Ordinance number	Control number
*	Molybdenum And Its Compounds	Molybdenum and its compounds, as Mo	Mo, 0.599	16	Class I designated chemical substance	1-453	453

***** Refer to Cabinet order name

After April 1, 2023 Pollutant Release and Transfer Register (PRTR)
The amount of the relevant substance in certain cases referenced in article 4(i)(a) or 4(i)(b) of the Enforcement Order of the Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof (PRTR Act) is calculated based on the conversion factors shown (with safety factor = 1 in cases where conversion factor information is not available)

Class I designated chemical substance	Weight-%
Molybdenum and its compounds, as Mo	9.3

Chemical name	Cabinet order name	Metal, CN, F, etc	Conversion coefficient	Content rate %	Category	Ordinance number	Control number
*	Molybdenum And Its Compounds	Molybdenum and its compounds, as Mo	Mo, 0.599	16	Class I designated chemical substance	1-505	453

***** Refer to Cabinet order name

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

Chemical name	CAS No	Category	Ordinance number
Molybdenum(IV) sulfide	1317-33-5	ISHL Notifiable Substances	Attached table 9-603
Pentane	-	ISHL Notifiable Substances	Attached table 9-543
Butane	-	ISHL Notifiable Substances	Attached table 9-482

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	CAS No	Category	Ordinance number
Molybdenum(IV) sulfide	1317-33-5	Harmful Substances Whose Names Are to be Indicated on the Label	Attached table 9-603
Pentane	-	Harmful Substances Whose Names Are to be Indicated on the Label	Attached table 9-543
Butane	-	Harmful Substances Whose Names Are to be Indicated on the Label	Attached table 9-482

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. IF exposed or concerned: Get medical advice/attention. If symptoms persist, call a physician. If breathing has stopped, give artificial respiration. Get medical attention immediately.
In case of skin contact	Wash off immediately with plenty of water for at least 15 minutes. 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. 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. If symptoms persist, call a physician.
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. Get medical attention.
Most important symptoms/effects, acute and delayed	Coughing and/ or wheezing. Difficulty in breathing.
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. Avoid breathing vapors or mists. Use personal protective equipment as required. See section 8 for more information.
Note to physicians	Treat symptomatically.

5. Fire-fighting measures

Suitable Extinguishing Media	Dry chemical. Carbon dioxide (CO2). Water spray.
Unsuitable extinguishing media	DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED.
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. Cylinders may rupture under extreme heat. Damaged cylinders should be handled only by specialists. Containers may explode when heated. In the event of fire, cool container with water spray.
Flammable properties	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. 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). Take precautionary measures against static discharges. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid breathing vapors or mists.
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	Keep out of drains, sewers, ditches and waterways. Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors. Dike far ahead of spill to collect runoff water. Flood with water to complete polymerization and scrape off floor.
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. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Use spark-proof tools and explosion-proof equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Keep in an area equipped with sprinklers. Do not puncture or incinerate cans. Contents under pressure. In case of rupture. Avoid contact with skin and eyes. Avoid breathing vapors or mists. In case of insufficient ventilation, wear suitable respiratory equipment. Do not eat, drink or smoke when using this product.
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.

Storage

Storage Conditions	Protect from sunlight. 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. Store in a cool, dry area away from potential sources of heat, open flames, sunlight or other chemicals. 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
Molybdenum(IV) sulfide 1317-33-5	-	-	TWA: 10 mg/m³ Mo inhalable particulate matter TWA: 3 mg/m³ Mo respirable particulate matter

Biological occupational exposure limits	Not applicable
Engineering controls	Showers Eyewash stations Ventilation systems.
Environmental exposure controls	Install safety shower, hand wash, and eye wash station. Clearly indicate the location. Install

local ventilation or seal source of substances.

Personal protective equipment

Respiratory protection In case of inadequate ventilation wear respiratory protection.

Hand protection Impervious gloves.

Eye/face protection Tight sealing safety goggles. Safety glasses with side shields are recommended for medical or industrial exposures.

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	Black
Odor	Distinct odor

Property	**Values**	**Remarks • Method**
Melting point / freezing point	no data available	
Initial boiling point and boiling range	Not available	
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	263 °C	Cleveland open cup
Evaporation rate	no data available	
Autoignition temperature	no data available	
Decomposition temperature	no data available	
pH	no data available	
Viscosity		
Kinematic viscosity		
Dynamic viscosity	25 Pa•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	1.6	
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 No hazardous reaction could occur under normal condition.

Conditions to avoid Heat. Direct sunlight.

Incompatible materials No information available.

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-dust/mist) 14.30 mg/l

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Molybdenum(IV) sulfide	-	-	> 2820 mg/m³ (Rat) 4 h

Abbreviations and acronyms
Rat: Rat
Rabbit: Rabbit

Symptoms Coughing and/ or wheezing.

Product Information

Ingestion Specific test data for the substance or mixture is not available.

Inhalation Intentional misuse by deliberately concentrating and inhaling contents may be harmful or fatal. Specific test data for the substance or mixture is not available. Harmful by inhalation. (based on components).

Skin contact Specific test data for the substance or mixture is not available.

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

Skin corrosion/irritation Based on available data, the classification criteria are not met. Classification not possible.

Serious eye damage/eye irritation Based on available data, the classification criteria are not met. Classification not possible.

Respiratory or skin sensitization Classification not possible.

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

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

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

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

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

Target organ effects Central nervous system. Central Vascular System (CVS). Respiratory system.

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. May cause drowsiness or dizziness. May cause respiratory irritation.

Causes damage to the following organs: circulatory system.

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.

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

12. Ecological information

Ecotoxicity Classification not possible.

Percentage for unknown hazards 1E-05 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

Persistence and degradability No information available.

Bioaccumulation

Component Information

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 UN1950
UN proper shipping name Aerosols

Description	UN1950, Aerosols, 2.1
Transport hazard class(es)	2.1
Marine pollutant	NP
EmS-No	F-D, S-U
Special Provisions	63,190, 277, 327, 344, 381, 959

ADR

UN number or ID number	1950
UN proper shipping name	Aerosols
Description	1950, Aerosols, 2.1, (D)
Transport hazard class(es)	2.1
ERG Code	10L
Special Provisions	190, 327, 344, 625

IATA

UN number or ID number	UN1950
UN proper shipping name	Aerosols, flammable
Description	UN1950, Aerosols, flammable, 2.1
Transport hazard class(es)	2.1
Special Provisions	A145, A167, A802

Japan

UN number or ID number	UN1950
UN proper shipping name	Aerosols
Description	UN1950, Aerosols, 2.1
Transport hazard class(es)	2.1
Special Provisions	63, 190, 327, 344, 959

15. Regulatory information

National regulations

Until March 31, 2023 Pollutant Release and Transfer Register (PRTR)
Applies See section 3 for more information
After April 1, 2023 Pollutant Release and Transfer Register (PRTR)
Applies See section 3 for more information

Industrial Safety and Health Law

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
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

Poisonous and Deleterious Substances Control Law
Not applicable
Explosives Control Law
Not applicable
High Pressure Gas Safety Act
Not applicable
Fire Service Law:
Non-hazardous material
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 21-Sep-2021
Revision date 15-Mar-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.