ThreeBond

SAFETY DATA SHEET

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

Issuing Date 21-Sep-2021
Revision date 27-Oct-2023
Revision Number 3

1. Identification

Product Name ThreeBond 1901

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

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)	Category 4
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	Category 1A
Reproductive toxicity	Classification not possible
Effects on or via lactation	Classification not possible
Specific target organ toxicity (single exposure)	Classification not possible
Specific target organ toxicity (repeated exposure)	Classification not possible
Aspiration hazard	Classification not possible
Acute aquatic toxicity	Category 3
Chronic aquatic toxicity	Classification not possible
Ozone	Classification not possible

GHS label elements

Signal word Danger

Hazard statements
H332 - Harmful if inhaled
H350 - May cause cancer
H402 - Harmful to aquatic life

Precautionary statements
Prevention
• Do not handle until all safety precautions have been read and understood
• Wear protective gloves/protective clothing/eye protection/face protection
• Avoid breathing dust/fume/gas/mist/vapors/spray
• Use only outdoors or in a well-ventilated area
• Avoid release to the environment
• Obtain special instructions or technical data sheet before use

Response
• IF exposed or concerned: Get medical advice/attention
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
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	30	(1)-481	(1)-481
2,6-Di-tert-butyl-p-cresol	128-37-0	0.1-<1	(3)-540,(9)-1805	(3)-540,(9)-1805
Mineral oil	-	20-<30		
Lubricant base oil, thickener, additive	-	25-<35		

This product contains ≥0.1 - <3.0% of substance (s) that are classified for Reproductive toxicity Category 2.

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	18

Chemical name	Cabinet order name	Metal, CN, F, etc.	Conversion coefficient	Category	Ordinance number	Control number
*	Molybdenum And Its Compounds	Molybdenum and its compounds, as Mo	Mo, 0.667	Class I designated chemical substance	1-505	453
*	Molybdenum And Its Compounds	Molybdenum and its compounds, as Mo	Mo, 0.599	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
Harmful substances requiring risk assessment
Article 57-3 of the ISHL

Chemical name	Ministerial Ordinance Name	CAS No.	Implementation date
Molybdenum(IV) sulfide	Molybdenum and its compounds	1317-33-5	
2,6-Di-tert-butyl-p-cresol	2,6-Di-tert-butyl-p-cresol	128-37-0	
Mineral oil	Mineral oils	-	

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
Molybdenum(IV) sulfide	Molybdenum and its compounds	1317-33-5	
Mineral oil	Mineral oils	-	

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 IF exposed or concerned: Get medical advice/attention. Show this safety data sheet to the doctor in attendance.

In case of inhalation If breathing has stopped, give artificial respiration. Get medical attention immediately. Remove to fresh air. If symptoms persist, call a physician.

In case of skin contact Wash skin with soap and water.

In case of eye contact Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult 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 Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid breathing dust/fume/gas/mist/vapors/spray. Use personal protective equipment as required. See section 8 for more information.

Note to physicians Treat symptomatically.

5. Fire-fighting measures

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.
Specific hazards arising from the chemical	No information available.
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	Ensure adequate ventilation. Avoid generation of dust. Do not breathe dust. Use personal protective equipment as required.
For emergency responders	Use personal protection recommended in Section 8.
Environmental precautions	See Section 12 for additional Ecological Information.
Methods for containment	Prevent further leakage or spillage if safe to do so.
Methods for cleaning up	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. Avoid contact with skin, eyes or clothing. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid generation of dust. Ensure adequate ventilation. Do not eat, drink or smoke when using this product.
Hygiene Measures	Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product. Avoid breathing dust/fume/gas/mist/vapors/spray.

Storage

Storage Conditions	Keep containers tightly closed in a dry, cool and well-ventilated place. 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
Molybdenum(IV) sulfide 1317-33-5	-	-	TWA: 10 mg/m³ Mo inhalable particulate matter TWA: 3 mg/m³ Mo respirable particulate matter	-	-
2,6-Di-tert-butyl-p-cresol 128-37-0	-	-	TWA: 2 mg/m³ inhalable fraction and vapor	10 mg/m³	-

Biological monitoring indicator

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. 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
Wear safety glasses with side shields (or goggles).

Skin and body protection
Wear suitable protective clothing.

9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state Solid
Color Black
Odor Distinct 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	227 °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	no data available
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	1.4
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 No information available.

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) 3.04 mg/l

Unknown acute toxicity

68.2 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

Numerical measures of toxicity - Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50

Molybdenum(IV) sulfide	-	-	> 2820 mg/m³ (Rat) 4 h
2,6-Di-tert-butyl-p-cresol	> 2930 mg/kg (Rat)	> 2000 mg/kg (Rat)	-

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 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.

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
2,6-Di-tert-butyl-p-cresol 128-37-0	-	Group 3

Legend
IARC (International Agency for Research on Cancer)
Group 2B - Possibly Carcinogenic to Humans
Group 3 - Not Classifiable as to Carcinogenicity in Humans

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

12. Ecological information

Ecotoxicity Harmful to aquatic life.

Chemical name	Algae/aquatic plants	Fish	Crustacea
2,6-Di-tert-butyl-p-cresol	EC50: =6mg/L (72h, Pseudokirchneriella subcapitata) EC50: >0.42mg/L (72h, Desmodesmus subspicatus)	-	-

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
2,6-Di-tert-butyl-p-cresol 128-37-0	5.1

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 Not regulated

ADR Not regulated

IATA Not regulated

Japan Not regulated

15. Regulatory information

National regulations

Pollutant Release and Transfer Register (PRTR)
Applies See section 3 for more information
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
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.
Lubricating oils, petroleum, C15-30, hydrotreated neutral oil-based	72623-86-0

Poisonous and Deleterious Substances Control Law
Not applicable
Explosives Control Law
No
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

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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.