

# Material Safety Data Sheet

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** SOD-1Plus  
**Company:** D1 Chemical Co., Ltd.  
**Address:** 1-3-45 Hanmichibashi, Hakata-ku, Fukuoka-shi, Fukuoka  
**Telephone No.:** 092-292-4439  
**FAX No.:** 092-292-4451  
**Recommended Usage and Use Restriction:**  
Synthetic Oil Treatment  
**MSDS Reference No.:** 1.0

## 2. HAZARDS IDENTIFICATION

### GHS Classification

**Physico-chemical Hazards:** Not applicable  
**Health Hazards**  
**Skin corrosion / Skin irritation:** Category 2  
**Serious eye damage / Eye irritation:** Category 2A  
**Environmental Hazards:** Not applicable

### Label Elements

#### Pictograms or Symbols:



**Signal Word:** Warning  
**Hazard Statements:** Skin irritation  
Serious eye irritation

### Precautionary Statements

**"Prevention"** Wash hands after handling.

**“Response”**

Wear protective gloves, and protective goggles/face-shield.  
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: Wash with plenty of water and soap.  
If skin irritation occurs: Get medical advice/attention.  
Take off contaminated clothing and wash before reuse.

**3. Composition and Information on Ingredients**

<b>Component:</b>	Mixture
<b>Chemical/Common Name:</b>	Synthetic ester oil, and Additive
<b>Composition:</b>	Synthetic ester oil      45-60% Additive(s)                40-55%
<b>CAS No.:</b>	Not disclosed due to trade secrecy
<b>Chemical Formula:</b>	Not applicable
<b>Japanese Official Reference No.:</b>	Not disclosed due to trade secrecy

**4. FIRST AID MEASURES**

<b>IF INHALED:</b>	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
<b>IF ON SKIN:</b>	Remove/Take off immediately all contaminated clothing. Wash with plenty of water and soap. If skin irritation or a rash occurs: Get medical advice/attention.
<b>IF IN EYES:</b>	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.
<b>IF SWALLOWED:</b>	Immediately call a POISON CENTER or doctor/physician. Rinse mouth. Do NOT induce vomiting.
<b>Important Signs and Symptoms:</b>	Sore throat, skin dryness, skin redness, pain of exposed skin, and others
<b>Protection of Rescues:</b>	Rescue personnel must wear such protective equipment as rubber gloves and seal-goggles.

## 5. FIREFIGHTING MEASURES

**Extinguishing Media:** Dry chemical, Foam, Carbon dioxide

**Unsuitable Extinguishing Media:**

Water (may cause fire-propagation)

**Hazards Specific to Fire:** Decomposition by burning or high temperature may produce toxic humes.

**Firefighting Procedures:** Fight fire upwind with procedures appropriate for situation.  
Keep unauthorized personnel away.  
Transfer immediately, to safe place, movable containers in danger of exposure to fire.

**Protection of Firefighters:** Firefighters must wear protective equipment.

## 6. ACCIDENTAL RELEASE MEASURES

**Personnel Precautions, Protective Equipment, and Emergency Measures:**

Wear personal protective equipment.

Conduct cleanup from upwind of the leak, and keep away downwind personnel.

Ensure sufficient ventilation.

Define leaked area by roping or the like, and keep unauthorized personnel away.

**Environmental Precautions:** Ensure that the product does not enter drainage.

**Containment and Cleanup Procedures/Equipment:**

Soak up leakage, for recovery, with waste cloth, dry sand, soil, or saw dust.

Dam or dike large leakage with soil.

Dispose of recovery and contaminated materials without delay in accordance with related laws and regulations.

## 7. HANDLING AND STORAGE

### Handling

**Engineering Control:** Handle in a well-ventilated area.

Wear proper personal protective equipment.

Prevent leaks, overflows, drifts, as well as unnecessarily induced vapors, during handling work.

Keep away from open flames or hot surfaces.

Take measures against static discharge.

Use explosion-proof equipment.

Wash hands, face, and possibly exposed skin thoroughly after handling.

**General Precautions:** In case that vapors or aerosols occur, use adequate general and local exhaust ventilation.

**Personal Precautions:** Prevent contact with skin, eyes, and cloths.

### **Storage**

**Storage Requirements:** Seal containers tightly, and store in a well-ventilated cool place.

(Keep temperature below 70°C, above which Hydrogen sulfide may occur.)

Keep away from ignition sources such as open flames, hot surfaces, etc.

Store away from such incompatible materials as oxidizers.

**Containers:** Do not transfer the content to other containers from the original one.

Do not pressurize an empty container. Pressurization may cause rupture.

Do not weld, heat, drill, or cut empty containers. Such work may lead residues in the empty containers to ignite with explosive force.

## **8. EXPOSURE CONTROLS AND PERSONAL PROTECTION**

**Engineering Control:** Use closed systems or local exhaust ventilation to protect workers from direct exposure. Install emergency eyewash equipment/stations and safety showers near the handling area.

**Control Concentrations, Japan:**

Not determined

**Acceptable Concentrations:**

ACGIH TLV (as mineral-oil) : TWA 5 mg/m<sup>3</sup>,  
STEL 10 mg/m<sup>3</sup>

OSHA PEL (as mineral-oil) : TWA 5 mg/m<sup>3</sup> (8 hrs)

**Protective Equipment**

**Respiratory protection:** Gas-masks, Simplified gas-masks, etc.  
**Hand Protection:** Protective gloves  
**Eye Protection:** Protective goggles, or if necessary, protective face-shield  
**Skin & Body Protection:** Protective cloths, and if necessary, protective boots

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical State (20 °C) :** Liquid  
**Color:** Brown, clear  
**Odor:** Strong lubricant-like odor  
**pH :** No data available  
**Melting Point:** ≤-21 °C  
**Boiling Point / Range:** ≥260 °C  
**Flash Point:** ≥201 °C  
**Flammability or Explosive Limit:**  
**Lower Limit:** No data available  
**Upper Limit:** No data available  
**Specific Gravity:** 0.93  
**Solubility:** Almost insoluble in water  
**Viscosity (Dynamic):** 640 mm<sup>2</sup>/s (40 °C)  
90 mm<sup>2</sup>/s (100 °C)

## 10. STABILITY AND REACTIVITY

**Stability:** Stable under proper conditions.  
**Possible Hazardous Reactions:**  
No report on specific reactivity  
**Incompatible Materials:** Oxidizers, Halogens, Strong acids, and Strong bases  
**Hazardous Decomposition Products:**  
Carbon monoxide, Carbon dioxide, Nitrogen oxides, Sulfur oxides, Hydrogen sulfide, etc.

## 11. TOXICOLOGICAL INFORMATION

**Acute Toxicity:** No data available  
**Skin Corrosion / Irritation:** No data available  
**Serious Eye Damage / Eye Irritation:**  
No data available  
**Germ Cell Mutagenicity:** No data available

**Carcinogenicity:** No data available

**Reproductive Toxicity:** No data available

## 12. Ecological Information

### Ecotoxicity

**Fish Toxicity:** No data available

**Crustacean Toxicity:** No data available

**Algae Toxicity:** No data available

**Persistency/Degradability:** No data available

**Bioaccumulation / Bioconcentration Factor (BCF):**

No data available

### Mobility in Soil

**Log Pow:** No data available

**Soil Adsorption Coefficient (Koc):**

No data available

**Henry's Constant (PaM<sup>3</sup>/mol):**

No data available

## 13. Disposal Considerations

Wear proper protective equipment.

Comply with local and national requirements.

For incineration, use an incinerator equipped with both afterburner and scrubber.

Clean empty containers to take away residues completely before disposal.

Commission disposal work to duly authorized agents for disposal of industrial wastes if inhouse disposal is impossible because of no disposal facility or other reasons.

## 14. Transport Considerations

**UN Classification:** Not applicable to UN Classification Criteria

**UN No.:** Not applicable

**Pecautions:** Confirm containers not to be leaked before loading. At loading, take necessary measures to prevent cargo (containers) from possible damages by cargo-collapse, such as falling and dropping, which may occur at loading or during transport. Comply with legal requirements for transport.

## 15. REGULATORY INFORMATION

**Fire Service Act, Japan:** Class 4, Petroleum 4  
Fire Danger Rating III

## 16. OTHER INFORMATION

This material safety data sheet (MSDS) was created in good faith on the basis of information in our hands at the time of creation. However, data and evaluation results of risks/hazards described in MSDS shall not warrant any property of the product. Users of the product are requested to collect information, before use of the product, not only on risks/hazards but also on latest requirements of organization, districts, and countries in which the product is being used; and to give the collected information the first priority for consideration.

The product purchased is assumed to be consumed in a short time from a viewpoint of product safety. After purchasing with MSDS, it may have been revised based on new information or correction. Users are requested to contact us again for latest information of the product in case that the product is used a significant period after purchase, or that users concern about recency of MSDS.

Precautions described in MSDS are intended to be applied to usual handling procedures. Therefore, if a specific handling procedure is scheduled for the product, it is essential to create and execute safety measures proper for the actual handling conditions, and also to pay careful attention during a course of the handling.

Chemical substances should be handled under recognition that each of them has unknown risks and hazards. Such risks and hazards fluctuate significantly in magnitude based on differences in use environment, handling procedure, storage conditions, or storage period. Please be warned that the product must be handled by personnel with expert knowledge and experience, or under guidance of such personnel for a period from opening containers and then storage, to disposal of the product.

Users of the product are requested to determine conditions for safe use at their own risks.