

# MATERIAL SAFETY DATA SHEET

RINSYUNDOU Co.,Ltd.  
RSD Building 2F  
2-32 Nagarahigashi, Gifu  
Gifu, Japan 502-0082  
Phone Number: 0081+58295-5755  
Fax Number: 0081+58294-0020

Prepared by : Sadako Hayashi  
Chief Executive Officer

Use the CHEMTREC telephone number only in the event of chemical emergencies.

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

**Product Name:** Metal Marker LMM-6000 Aerosol Spray Can **Date of Preparation:** 04/26/2017  
**CAS-No.:** Mixture  
**Recommended use:** Industrial Use Only  
**Product Code:** Metal Marker  
**Product trade Name:** RSD Metal Marker

## 2. HAZARDS IDENTIFICATION

### Emergency Overview

#### Warning

Highly flammable liquid and vapor. Vapors may travel to a source and flash back. Vapors may cause flash fire or explosion. Avoid contact with the skin and the eyes. Irritating to eyes. May be harmful if swallowed. May be harmful by inhalation.

		<u>HMIS</u>	<u>NFPA 704</u>
<b>Color:</b> Gray	<b>Health:</b>	3*	3
<b>Physical state:</b> Liquid	<b>Flammability:</b>	4	4
<b>Odor:</b> Characteristic	<b>Physical Hazard:</b>	1	1
	<b>PPE:</b>	B	

### Potential Health Effects

**Principle routes of exposure:** Inhalation, ingestion, skin and eye contact.

**Eye contact:** May cause severe eye irritation.

**Skin contact:** Extremely irritating to the skin. Prolonged skin contact may defat the skin and produce dermatitis.

**Inhalation:** May be harmful by inhalation. Vapors extremely irritating to eyes and respiratory tract.

**Ingestion:** May be harmful if swallowed.

**Chronic toxicity:** Excessive inhalation of fumes or dust may cause chemical pneumonitis, cyanosis, and pulmonary edema. Chronic exposure to ethanol can cause developmental damage. Long-term exposure can also cause loss of appetite, weight loss, nervousness, memory loss, mental retardation and liver damage. Combined exposure to ethanol and certain other chemicals may result in increased toxic effects.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS Number	Weight %
Ethanol	64-17-5	30 - 40%

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Petroleum gases, liquefied, sweetened	68476-86-8	20 - 30%
Molybdenum Compounds		20 - 30%
Vandadium Compounds		10 - 20%
Silicate mineral		5 - 10%
Methanol	67-56-1	1 - 5%
Proprietary Additive		1 - 5%
Methyl isobutyl ketone	108-10-1	0.1 - 0.5%

The specific chemical identities are being withheld as a trade secret (29CFR1910.1200).

### 4. FIRST AID MEASURES

<b>Eye contact:</b>	Rinse immediately with plenty of water, also under the eyelids. Get medical attention if irritation develops.
<b>Skin contact:</b>	Wash off immediately with soap and plenty of water. Remove and wash contaminated clothing before re-use. If symptoms persist, call a physician.
<b>Inhalation:</b>	Move to fresh air. If breathing is difficult, give oxygen. If symptoms persist, call a physician.
<b>Ingestion:</b>	Drink plenty of water. Do not induce vomiting. Consult a physician if necessary.
<b>Notes to physician:</b>	Treat symptomatically.

### 5. FIRE-FIGHTING MEASURES

**Flash point (°C):** 13( 55°F) Method: PMCC

<b>Suitable extinguishing media:</b>	Use dry chemical, CO2, water spray or foam.
<b>Hazardous decomposition products under fire conditions:</b>	Carbon oxides. Molybdenum compounds.
<b>Special protective equipment for firefighters:</b>	As in any fire, wear self-contained breathing apparatus (pressure-demand, NIOSH approved or equivalent) and full protective gear
<b>Unusual hazards:</b>	Flammable solid. Vapors may form explosive mixture with air. Vapors are heavier than air and may spread along floors. Vapor may travel considerable distance to source of ignition and flash back.

### 6. ACCIDENTAL RELEASE MEASURES

<b>Personal precautions:</b>	Flammable liquid. Remove all sources of ignition. Remove all non-essential people from the affected area. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid contact with skin, eyes and clothing. Wear personal protective equipment.
<b>Environmental precautions:</b>	Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system.
<b>Methods for cleaning up:</b>	Wear personal protective equipment. Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. Clean contaminated surface thoroughly. Dispose of promptly.

### 7. HANDLING AND STORAGE

## 7. HANDLING AND STORAGE

### Handling:

Keep away from open flames, hot surfaces and sources of ignition. Handle in accordance with good industrial hygiene and safety practice. Use only in area provided with appropriate exhaust ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid contact with skin, eyes and clothing. Wear personal protective equipment. Do not eat, drink, or smoke in areas of use or storage. Do not take internally. Wash thoroughly after handling.

### Storage:

Keep containers dry and tightly closed to avoid moisture absorption and contamination. Keep product and empty container away from heat and sources of ignition.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Exposure limits

Minimize exposure in accordance with good hygiene practice.

Components	OSHA PEL	ACGIH
Ethanol	1000 ppm TWA 1900 mg/m <sup>3</sup> TWA	1000 ppm STEL
Silicate mineral	20 mppcf TWA	3 mg/m <sup>3</sup> TWA respirable fraction
Methanol	200 ppm TWA 260 mg/m <sup>3</sup> TWA	Skin 250 ppm STEL 200 ppm TWA
Methyl isobutyl ketone	100 ppm TWA 410 mg/m <sup>3</sup> TWA	75 ppm STEL 20 ppm TWA

### Engineering measures:

Provide appropriate exhaust ventilation wherever dust, mist, vapors, or fumes can be generated. Ensure that eyewash stations and safety showers are proximal to the work-station location.

### Eye protection:

Safety glasses with side-shields.

### Skin and body protection:

Lightweight protective clothing. Keep working clothes separately. Remove and wash contaminated clothing before re-use.

### Hand protection:

Impervious gloves. Follow the recommendations given by the manufacturer of protective gloves.

### Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment. NIOSH-approved respirators should be worn where engineering controls and work practices do not reduce exposure to or below the PEL. Seek professional advice prior to respirator selection and use.

### Hygiene measures:

Wash hands before breaks and at the end of workday

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Color:</b>	Gray	<b>Physical state:</b>	Liquid
<b>Odor:</b>	Characteristic	<b>Molecular weight:</b>	No data available
<b>Boiling point/range (°C):</b>	77.8	<b>pH:</b>	3.0
<b>Melting point/range (°C):</b>	No data available	<b>Specific gravity (Water =1):</b>	1.4
<b>Vapor pressure :</b>	No data available	<b>Water solubility:</b>	Partly soluble
<b>VOC content</b>	51.1%		

## 10. STABILITY AND REACTIVITY

### Stability:

Stable at normal conditions.

### Polymerization

None under normal processing.

**Hazardous decomposition products:** Thermal decomposition can lead to release of irritating gases and vapors. Carbon oxides. Molybdenum compounds.

### Materials to avoid:

Strong oxidizing agents. Strong reducing agents.

**Conditions to avoid**

Heat, flames and sparks. Avoid elevated temperatures.

**11. TOXICOLOGICAL INFORMATION****Acute toxicity:**

Information given is based on data on the components and the toxicology of similar products

**Carcinogenic Effects:**

The International Agency for Research on Cancer (IARC) has determined alcoholic beverages are carcinogenic to humans (Group 1) and the occurrence of malignant tumors of the oral cavity, pharynx, larynx, esophagus and liver is causally related to the consumption of alcoholic beverages in humans. Animal studies on ethanol do not provide sufficient indication of carcinogenicity.

**Components**

Ethanol  
Silicate mineral  
Methanol  
Methyl isobutyl ketone

**NIOSH - Pocket Guide - Target Organs**

eyes respiratory system CNS liver skin blood reproductive system  
respiratory system  
eyes CNS skin GI tract respiratory system  
eyes CNS respiratory system liver skin kidneys

**Component information, if any, is listed below****Ethanol**

**LD50s and LC50s:** Inhalation LC50 (Rat) = 124.7 mg/L  
Oral LD50 (Rat) = 7060 mg/kg

**OSHA - Select Carcinogens:** Present

**NTP:** Known Human Carcinogen

**IARC - Group 1:** Listed

**Molybdenum Compounds**

**LD50s and LC50s:** Oral LD50 (Rat) = 2689 mg/kg  
Dermal LD50 (Rat) = 2 g/kg  
Inhalation LC50 (Rat) = 5840 mg/m<sup>3</sup>

**Vandadium Compounds**

**LD50s and LC50s:** Oral LD50 (Rat) = 98 mg/kg

**Methanol**

**LD50s and LC50s:** Dermal LD50 (Rabbit) = 15800 mg/kg  
Oral LD50 (Rat) = 5628 mg/kg  
Inhalation LC50 (Rat) = 64000 ppm  
Inhalation LC50 (Rat) = 83.2 mg/L

**Proprietary Additive**

**LD50s and LC50s:** Oral LD50 (Rat) = 10200 mg/kg

**Methyl isobutyl ketone**

**LD50s and LC50s:** Oral LD50 (Rat) = 2080 mg/kg  
Inhalation LC50 (Rat) = 8.2 mg/L  
Dermal LD50 (Rabbit) = 16000 mg/kg

**OSHA - Select Carcinogens:** Present

**IARC - Group 2B:** Listed

## 12. ECOLOGICAL INFORMATION

**Aquatic toxicity:** No data is available on the product itself. Information given is based on data on the components and the ecotoxicology of similar products.

### Ethanol

Ecotoxicity - Fish Species Data:  
96 h LC50 (Oncorhynchus mykiss) = 12.0 - 16.0 mL/L static  
96 h LC50 (Pimephales promelas) = 13400 - 15100 mg/L flow-through  
96 h LC50 (Pimephales promelas) = 100 mg/L static  
Ecotoxicity - Water Flea Data:  
48 h LC50 (Daphnia magna) = 9268 - 14221 mg/L  
24 h EC50 (Daphnia magna) = 10800 mg/L  
48 h EC50 (Daphnia magna) = 2 mg/L Static

### Methanol

Ecotoxicity - Fish Species Data:  
96 h LC50 (Lepomis macrochirus) = 13500 - 17600 mg/L flow-through  
96 h LC50 (Oncorhynchus mykiss) = 18 - 20 mL/L static  
96 h LC50 (Oncorhynchus mykiss) = 19500 - 20700 mg/L flow-through  
96 h LC50 (Pimephales promelas) = 28200 mg/L flow-through  
96 h LC50 (Pimephales promelas) = 100 mg/L static

### Methyl isobutyl ketone

Ecotoxicity - Fish Species Data:  
96 h LC50 (Pimephales promelas) = 496 - 514 mg/L flow-through  
Ecotoxicity - Water Flea Data:  
48 h EC50 (Daphnia magna) = 170 mg/L  
Ecotoxicity - Freshwater Algae Data:  
96 h EC50 (Pseudokirchneriella subcapitata) = 400 mg/L

**Persistence and degradability:** Not determined

## 13. DISPOSAL CONSIDERATIONS

**Waste from residues / unused products:** Waste must be disposed of in accordance with federal, state and local environmental control regulations. Where possible recycling is preferred to disposal or incineration.

## 14. TRANSPORT INFORMATION

### DOT (U.S.)

**UN/ID No:** UN1950  
**Proper shipping name:** Aerosols  
**Hazard Class:** 2.1  
**ERG No:** 126

### TDG (Canada)

**UN-No** UN2150  
**Proper Shipping Name** Aerosols  
**Hazard Class** 2.1

### IMDG

**UN-No** UN2150  
**Proper Shipping Name** Aerosols, flammable  
**Hazard Class** 2.1  
**Ems:** F-D, S-U

**Description** UN1950, Aerosols, flammable,2.1

**IATA**

**UN-No** UN1950

**Proper shipping name** Aerosols, flammable

**Hazard Class** 2.1

**ERG Code** 10P

**Shipping Description** UN1950,Aerosols, flammable,2.1

### 15. REGULATORY INFORMATION

**U.S. Regulations:**

**TSCA:** Not subject to TSCA 12(b) Export Notification

**SARA 313:**

Components	U.S. - CERCLA/SARA - Section 313 - Emission Reporting
Methanol (1 - 5%)	1.0 % de minimis concentration
Molybdenum Compounds (20 - 30%)	1.0 % de minimis concentration

**State Regulations**

This product or its ingredients have been evaluated for New Jersey, Pennsylvania, and California Prop 65 supplier notification requirements. Substances that are subject to notification requirements, if any, are listed below.

Components	PARTK:
Methanol	Listed (PARTK)
Molybdenum Compounds	Listed (PARTK)

Components	NJRTK:
Methyl isobutyl ketone	1268
Ethyl Acetate	0841
Ethanol	0844
Methanol	1222

Components	State Regulation - CA Prop65
Methyl isobutyl ketone	Carcinogen
Ethanol	Carcinogen
	Developmental Toxicity
Methanol	Developmental Toxicity

**Canadian WHMIS**

**WHMIS hazard class:** B2 Flammable liquid D1B Toxic materials D2A Very toxic materials

**Canadian Ingredient Disclosure List (IDL):**

Components	Canada - WHMIS Ingredient Disclosure:
Silicate mineral	1
Ethanol	0.1
Methanol	1
Vandadium Compounds	1
Molybdenum Compounds	1

**International Inventories**

**U.S. EPA TSCA 8(b):** Listed or exempt.

**Canada DSL/NDSL list** All ingredient(s) are listed on the DSL or NDSL

**Europe (EINECS):** Listed or exempt.

**Philippines (PICCS):** Listed.

**Japan (ENCS):** One or more ingredient(s) are not on the ENCS list.

<b>Korea (KECL):</b>	Listed.
<b>China (IECS):</b>	Listed.
<b>Australia (AICS):</b>	Listed.
<b>New Zealand (NZIoC):</b>	Listed.

## 16. OTHER INFORMATION

### For Industrial Use Only

**Prepared by:** Ferro Technical Center

**Disclaimer:** The information and recommendations contained in this Material Safety Data Sheet have been compiled from sources believed to be reliable and to represent the most reasonable current opinion on the subject when the MSDS was prepared. No warranty, guaranty or representation is made as to the correctness or sufficiency of the information. The user of this product must decide what safety measures are necessary to safely use this product, either alone or in combination with other products, and determine its environmental regulatory compliance obligations under any applicable federal or state laws.

**End of Safety Data Sheet**