**MD-BOTH INDUSTRIES**
40 NICKERSON ROAD
ASHLAND
MASSACHUSETTS 01721-1912
TEL: 508-881-4100
FAX: 508-881-1656

| Hazard Ratings | | |
|---|---|---|
| Minimal.....0 | HEALTH | 1 |
| Slight.....1 | FLAMMABILITY | 1 |
| Moderate.....2 | REACTIVITY | 1 |
| Serious.....3 | PERSONAL PROTECTION | B |
| Severe.....4 | | |

# MATERIAL SAFETY DATA SHEET

Date of Preparation: June 21, 2002
Prepared by: Max Hui

## SECTION 1

Manufacturer's Name: MD-BOTH Industries
Street Address: 40 Nickerson Road, Ashland, MA 01721
Emergency Telephone #: CHEMTREC 800-424-9300 24 HRS
Chemical Name: Aluminum flake pasted in 20% diisononylphathlate
Trade Name: 1811-D, 1880-1020, 2480-1020, ON/1550/80, ON/1970/80, DINP/1500/80, DINP/1700/80, DINP/2900/80, DINP/3100/80, DINP/3200/00.

## SECTION 2 -- HAZARDOUS INGREDIENTS

This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning & Community Right-To-Know Act of 1986 and 40 CFR 372:

| CAS# | Chemical Name | % by Weight | LEL | Vapor Pressure |
|---|---|---|---|---|
| 7429-90-5 | Aluminum | 78.0 | 30 oz/1000 ft³ | N/A |

This product also contains the following hazardous ingredients:

| CAS# | Chemical Name | % by Weight | LEL | Vapor Pressure |
|---|---|---|---|---|
| 28553-12-0 | Diisononylphthalate | 20.0 | N/A | 1.300mm Hg @ 392°F |

This product also contains the following ingredients:

| CAS# | Chemical Name | % by Weight | LEL | Vapor Pressure |
|---|---|---|---|---|
| 57-11-4 | Stearic acid | 2.0 | N/A | 0.050mm Hg |

All components of this product are listed in the TSCA inventory and are found on the Canadian DSL.

## SECTION 3 -- PHYSICAL DATA

Boiling range of solvent (°C): 252
Vapor density: Greater than air
Type of odor: Oil like
Evaporation rate: Slower than ether
Liquid density of solvent: Less than water
Appearance: Silver colored paste
% VOC: 20

## SECTION 4 -- FIRE AND EXPLOSION DATA

Flammability Classification: OSHA: Not classified
DOT: Not regulated
Flash Point of solvent (°C) : 224 (COC)
Extinguishing Media: Class D Dry chemical extinguishing agent or other suitable extinguishing material such as dry sand. Do not use Class A, B, or C extinguishers or halogenated agents. Do not use water.
Unusual Fire and Explosion Hazards: Closed containers may explode when exposed to extreme heat. Closed containers may be cooled with a fine water spray. Incomplete combustion may result in smoke, fumes, or carbon monoxide. If solvent has completely burned out or evaporated, any disturbance that might create a dust cloud can result in explosion. LEL of dry aluminum flake is 30 ounces/1000 $ft^3$.
Special Fire fighting Procedures: If solvent has completely burned out and the aluminum has ignited, drum should be carefully isolated and fine dry sand placed around outside of container. If dry chemical agent is applied, the extinguisher must be equipped with a low velocity nozzle to avoid dust generation. Avoid water, strong acids or alkalis, and chlorinated hydrocarbons. Water reacts with aluminum to form hydrogen, a flammable and explosive gas.
Wear a self-contained breathing apparatus with a full face piece operated in the positive pressure demand mode.

## SECTION 5 -- HEALTH HAZARD DATA

Effects of Overexposure:

Eye contact--may cause irritation.
Skin contact--may cause irritation; may aggravate preexisting skin conditions..
Inhalation-- may cause irritation in respiratory tract; may aggravate preexisting respiratory conditions
Ingestion--swallowing large amounts may be harmful

Primary Routes of Entry: Skin contact, eye contact, inhalation.

SECTION 5 (continued)

Emergency and First Aid Procedures:
Eye contact: Flush with large amounts of water for 15 minutes or until irritation subsides. Call physician.
Skin contact: Wash with soap and water. Remove and wash contaminated clothing.
Inhalation: Remove affected person to fresh air. Restore normal breathing and administer oxygen if necessary. Call physician.
Ingestion: Do not induce vomiting. Consult physician or poison control center immediately. Treat symptomatically.

## SECTION 6 – REACTIVITY DATA

Product Stability: stable
Conditions to avoid: Heat, sparks, open flames, water, acids, alkalis, strong oxidizing agents
Hazardous decomposition products: Aluminum reacts with water, acids, and alkalis to form hydrogen gas. Incomplete combustion of solvent can form carbon monoxide.
Hazardous polymerization: Does not occur.

## SECTION 7 – SPILL OR LEAK PROCEDURES

Procedure When Material Spilled or Released: Remove all sources of ignition. Keep people away. Ventilate area. Using spark-proof tools remove material to leak-proof container for disposal. Use dry sand or other absorbent material to absorbent any excess solvent.
Waste Disposal Method: Dispose of contaminated material in an approved landfill or approved incinerator that can accept metal containing organic material in accordance with local, state, and federal regulations.

## SECTION 8 – SPECIAL PROTECTION INFORMATION

Use explosion-proof equipment. No smoking or open lights.
Protective Gloves: Use chemical resistant gloves to avoid prolonged skin contact.
Eye Protection: Use chemical goggles to minimize the chance of eye contact..
Respiratory protection: Provide sufficient mechanical ventilation to prevent overexposure from known, apparent, or suspected adverse effects. If engineering controls are not sufficient to prevent exposure, use a NIOSH approved respirator.

## SECTION 9 -- SPECIAL PRECAUTIONS

Handling and Storage: Do not store above 120 degrees F. Store in closed containers in a cool, well-ventilated area.
Other Precautions: DO NOT ALLOW MATERIAL TO EVAPORATE TO DRYNESS. Do not ingest. Avoid prolonged contact with skin, contact with eyes, and breathing vapor.

More detailed information on storage and handling of aluminum powders may be found in the Aluminum Association's brochure entitled "Recommendations for Storage and Handling of Aluminum Powders and Pastes".

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