



## Material Safety Data Sheet

### OAKFLO® DSO 5400X

#### METALWORKING FLUID CONCENTRATE

DATE EFFECTIVE: 12-10-2008

#### 1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Manufacturer:** Oak International, Inc.  
1160 White Street  
Sturgis, MI 49091 USA

**Emergency:** Telephone (USA): 1-800-424-9300 (CHEMTREC)  
Telephone (OUTSIDE USA): 1-703-527-3887 (CHEMTREC)

**General Information:** Telephone: 1-269-651-9790

**Generic Name:** Water Soluble Metalworking Fluid Concentrate

#### 2 EMERGENCY INFORMATION

Product is combustible. Product is alkaline. Product is a primary eye irritant. Product may be a primary skin irritant. Highway spills could result in slippery conditions. No other significant health effects are associated with this material.

#### 3 POTENTIAL HEALTH EFFECTS OF DIRECT EXPOSURE

|                      | <b>Product</b>                          | <b>Product at Use Dilution</b>   |
|----------------------|---|--|
| <b>Inhalation:</b>   | Not Applicable                          | Extended exposure to mist may cause upper respiratory irritation.                        |
| <b>Eye Contact:</b>  | Product is a primary eye irritant.      | Will cause stinging sensation in the eye.  |
| <b>Skin Contact:</b> | Product may be a primary skin irritant. | Not irritating to the skin when used as directed and good personal hygiene is practiced. |
| <b>Ingestion:</b>    | Not orally toxic.                       | Swallowing small quantities may cause diarrhea, nausea or vomiting.                      |

##### **Medical Conditions generally aggravated by exposure**

May aggravate existing skin irritation where further defatting or skin penetration could occur.

Skin irritation (redness and dryness of hands) may be experienced when the diluted product has been contaminated by certain oils, by dissolved metals, or when mix ratio is too strong. When problems occur, use of water-resistant barrier creams may be a temporary control measure. Contact Oak International, Inc. Technical Services at 1-269-651-9790 for specific recommendations.

When used in applications generating high levels of mist, operator exposure can be minimized by proper ventilation, use of mist collectors or splash guards, as appropriate. If there is doubt about actual mist levels present, monitoring should be conducted. Contact Oak International, Inc. at 1-269-651-9790 for specific recommendations.

Repeated excessive exposures to high amounts of triethanolamine may cause liver and kidney effects.

**Carcinogen Listings:** NTP: No IARC: No OSHA: No

### **Signs and symptoms of exposure**

#### **Acute**

Eye injury may result from contact with product. Skin irritation can result from improper use and handling of product.

## **4 EMERGENCY AND FIRST AID PROCEDURES**

### **Eyes**

In case of eye contact, flush immediately with running water for at least 15 minutes, and get prompt medical attention.

### **Skin Contact**

For skin contact flush with large amounts of water while removing contaminated clothing. Remove contaminated shoes and clothing and launder before reuse. If irritation persists, get medical attention.

Diluted product is not irritating to the skin when used as recommended and good personal hygiene is practiced.

### **Ingestion**

If the material is swallowed, get immediate medical attention or advice. **DO NOT INDUCE VOMITING.** Give two glasses of water or milk. Immediately contact a physician and obtain treatment. Swallowing small quantities of diluted product may cause nausea, diarrhea or abdominal distress.

### **Inhalation**

Inhalation can occur in applications where high mist levels are generated. OSHA has set a PEL of 15 mg/m<sup>3</sup> for any airborne particulate as a nuisance level of exposure. NIOSH has set a REL of 0.5 mg/m<sup>3</sup> for metalworking fluid mist. If symptoms are experienced, remove source of contamination or move victim to fresh air. If symptoms persist, get medical attention.

## **5 CONTROL MEASURES**

### **Respiratory protection**

Product is not volatile.

In applications where time-weighted exposures are 0.5 to 5 mg/m<sup>3</sup>, mist reduction through improved ventilation, mist collection or process modification is recommended by NIOSH. Where this is not possible, NIOSH recommends the use of any air purifying, half-mask respirator including a disposable respirator, equipped with any P- or R-series particulate filter. If the average exposure will exceed 5 mg/m<sup>3</sup>, NIOSH recommends use of a powered, air-purifying respirator equipped with a hood or helmet and a HEPA filter. If respiratory problems are present when mist levels are < 0.5 mg/m<sup>3</sup>, respiratory protection should be based on the individual recommendation of a qualified health care provider.

### **Caution**

The appropriate use and type of respirator is dependent upon use of the product and local operating conditions.

## Ventilation

For most applications, adequate shop ventilation is needed. However, when high mist levels are generated or where machines are close together or ventilation is inadequate, operators may experience respiratory irritation. For such applications, use of splash guards or mist collectors is recommended.

## Eye protection

Proper metalworking plant eye protection required when handling product concentrate.

## Other protective clothing or equipment

Use effective metalworking plant protective clothing as appropriate.

## Work / Hygiene Practices

Good personal hygiene should always be followed.

## Protective Gloves

Impervious gloves, such as nitrile gloves, are recommended when handling product concentrate.

## 6 HAZARDOUS INGREDIENTS / IDENTITY INFORMATION

These ingredients may contribute to the acute product hazards listed under the Potential Health Effects section. Other substances, not hazardous under the OSHA Hazard Communication Standard, may be present. Further composition information may be available to health professionals as provided in the Standard.

| Component  | CAS #      | Percent |
|--|------------|---------|
| SEVERELY-HYDROTREATED NAPHTHENIC PETROLEUM DISTILLATES | 64742-52-5 | 30 - 60 |
| MONOETHANOLAMINE                                       | 141-43-5   | 3 - 7   |
| TRIETHANOLAMINE  | 102-71-6   | 1 - 5   |
| SODIUM ALKYL BENZENE SULFONATE                         | 78330-12-8 | 1 - 5   |
| ALKOXYLATED LINEAR ALCOHOLS                            | 68987-81-5 | 1 - 5   |
| p-CHLORO-m-CRESOL                                      | 59-50-7    | 1 - 5   |

## 7 FIRE AND EXPLOSION HAZARD DATA

### Extinguishing Media

Chemical foam, carbon dioxide, or dry chemical

### Hazardous Combustion Products

Smoke, fumes, oxides of nitrogen, hydrogen chloride, and oxides of carbon

**Flash Point:** 360 °F (182.2 °C) Cleveland Open Cup

**Lower Explosive Limit:** Not Applicable

**Upper Explosive Limit:** Not Applicable

### HMIS RATINGS

Health 1

Flammability Classification 1

Reactivity 0

### NFPA RATINGS

Health 1

Flammability Classification 1

Reactivity 0

## 8 ACCIDENTAL RELEASE MEASURES

Contain the spill, collect on absorbent material, and discard as dictated by Federal, state and local regulations that may apply. Flush area thoroughly with water.

**Reportable Quantity:** None

## 9 WASTE DISPOSAL

### For Used Product

Disposal procedures must comply with local, county, state and Federal regulations. If pre-treatment is needed, ultrafiltration, emulsion breaking or evaporation may be used. Contact Oak International, Inc. at 1-269-651-9790 for assistance.

### For Unused Product

Product is not a hazardous waste as defined under 40 CFR 261. Contact Oak International, Inc. at 1-269-651-9790 for assistance.

### Empty Containers

Empty containers will contain a residue which is not considered a hazardous waste under RCRA regulations. Drums can be drained to a "drip dry" condition by inversion and can be offered for recycling or scrap.

**CAUTION:** Empty containers retain residue (liquid and/or vapor) and may be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE THIS CONTAINER TO HEAT, FLAME, SPARKS OR OTHER SOURCES OF IGNITION: IT MAY EXPLODE AND CAUSE INJURY OR DEATH. Do not attempt to clean drums since residue is difficult to remove. Empty drums should be completely drained, promptly bunged, and promptly returned to a drum reconditioner. Empty disposable bulk containers should be drained, sealed, and properly discarded. Empty recyclable bulk containers should be drained, sealed, and recycled. Empty pails and jugs should be drained and properly discarded.

## 10 HANDLING AND STORAGE

Avoid all contact of product with eyes or skin. Wash thoroughly after handling. Do not swallow. Do not store product concentrate in direct sunlight or elevated temperatures. Use only as recommended by Oak International, Inc. . If frozen, thaw completely at room temperature prior to use.

### Other Precautions

Product is combustible. Do not heat. Avoid open flames, sparks, and temperatures approaching the flash point. Contains amines. Do not add sodium nitrite or other nitrosating agents to this product because suspected cancer-causing nitrosamines may be formed.

## 11 PHYSICAL / CHEMICAL CHARACTERISTICS

|  |                         |
|--|-------------------------|
| <b>Boiling Point:</b>                            | Not Applicable          |
| <b>Specific Gravity:</b>                         | 1.01                    |
| <b>Evaporation Rate:</b>                         | Like water when diluted |
| <b>Solubility (H2O):</b>                         | 100 % Miscible          |
| <b>Volatile Organic Content (by ASTM D2369):</b> | 13 %                    |
| <b>pH (Concentrate):</b>                         | Not Applicable          |
| <b>pH (Mix):</b>                                 | 8.6 @ 5%                |
| <b>Recommended Starting Dilution:</b>            | 5 %                     |
| <b>Appearance/Odor:</b>                          | Clear/Chemical          |

## 12 REACTIVITY

### Stability

Stable under normal conditions.

### Conditions to avoid

Use as directed.

### Materials to avoid

Avoid contact with strong acids or oxidizers to product.

### Hazardous Polymerization

Will not occur.

### Combustion Products

Smoke, fumes, oxides of nitrogen, hydrogen chloride, and oxides of carbon

## 13 TRANSPORTATION INFORMATION

### BY LAND

#### Hazardous Materials Description and Proper Shipping Name (49 CFR 172.101)

Not a Hazardous Material

### BY AIR OR VESSEL

#### Hazardous Materials Description and Proper Shipping Name (49 CFR 172.101)

Not a Hazardous Material

## 14 REGULATORY INFORMATION

### EXPOSURE GUIDELINES

| REGULATED MATERIAL      | NIOSH REL             | OSHA PEL            | OSHA STEL | ACGIH TLV           | ACGIH STEL |
|-------------------------|-----------------------|---------------------|-----------|---------------------|------------|
| MONOETHANOLAMINE        |                       | 3 ppm               | 6 ppm     | 3 ppm               | 6 ppm      |
| TRIETHANOLAMINE         |                       |                     |           | 5 mg/m <sup>3</sup> |            |
| METALWORKING FLUID MIST | 0.5 mg/m <sup>3</sup> |                     |           |                     |            |
| MINERAL OIL (MIST)      | 5 mg/m <sup>3</sup>   | 5 mg/m <sup>3</sup> |           | 5 mg/m <sup>3</sup> |            |

### CERCLA

No components of this product are present at levels which require reporting under 40 CFR 302.4.

**EPCRA (SARA) TITLE III Extremely Hazardous Substances (302):** None

### Hazardous Substances (311/312)

Product is a hazardous substance as defined under the OSHA Hazard Communication Standard and may be reportable under the provisions of SARA Sections 311 and 312.

### HAZARD CATEGORIES

**Acute Health:** Yes

**Chronic Health:** No

**Fire:** Yes

**Sudden Release of Pressure:** No

**Reactive:** No

## RCRA

Product concentrate does not meet the definition of a hazardous waste as defined under 40 CFR 261. It is possible that in use, the product may be contaminated by metals or by chlorinated solvents and the final waste may meet the TCLP definition. Each facility should assess each waste stream to determine if the used fluid should be treated as a hazardous waste.

## TSCA

The ingredients of this product are on the TSCA inventory.

## State Right to Know

Many states have enacted Community Right-To-Know laws which require information beyond that mandated by federal laws. Since some of these laws are inconsistent with the federal laws, the information in this sheet may not fully meet the requirements of every state.

## Toxic Substances (313)

| Component | CAS # | Max % | Comments |
|-----------|-------|-------|----------|
| None      |       | %     |          |

## GLOSSARY OF ABBREVIATIONS

|               |   |
|---------------|---|
| <b>ACGIH</b>  | American Conference of Governmental Industrial Hygenists            |
| <b>CAS</b>    | Chemical Abstracts Service  |
| <b>CERCLA</b> | Comprehensive Environmental Response Compensation and Liability Act |
| <b>CFR</b>    | Code of Federal Regulations   |
| <b>COC</b>    | Cleveland Open Cup  |
| <b>DOT</b>    | Department of Transportation  |
| <b>EPCRA</b>  | Emergency Planning and Community Right-to-Know Act (aka SARA)       |
| <b>IARC</b>   | International Agency for Research on Cancer                         |
| <b>NIOSH</b>  | National Institute for Occupational Safety and Health               |
| <b>NTP</b>    | National Toxicology Program   |
| <b>OSHA</b>   | Occupational Safety and Health Administration                       |
| <b>PEL</b>    | Permissible Exposure Limit  |
| <b>RCRA</b>   | Resource Conservation and Recovery Act                              |
| <b>REC</b>    | Recommended   |
| <b>REL</b>    | Recommended Exposure Limit  |
| <b>SARA</b>   | Superfund Amendments and Reauthorization Act                        |
| <b>STEL</b>   | Short-Term Exposure Limit   |
| <b>TCLP</b>   | Toxicity Characteristics Leaching Procedure                         |
| <b>TLV</b>    | Threshold Limit Value   |
| <b>TSCA</b>   | Toxic Substances Control Act  |
| <b>VOC</b>    | Volatile Organic Compounds  |

## Disclaimer

NOTE: The opinions expressed herein are those of qualified experts within Oak International, Inc. and of their suppliers. We believe that the information contained herein is current as of the date of this Material Safety Data Sheet. Since the use of this information and of these opinions and the condition and use of the product are not within the control of Oak International, Inc. , it is the user's obligation to determine the conditions of safe use of the product.