



Material Safety Data Sheet

MILFORM® 5CF

STAMPING AND DRAWING OIL

DATE EFFECTIVE: 07-18-2005

1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Manufacturer: Milacron Marketing Company, Global Industrial Fluids
3000 Disney Street
Cincinnati, OH 45209 United States

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

General Information: Telephone: 1-513-458-8199

Generic Name: Stamping and Drawing Oil

2 EMERGENCY INFORMATION

Product is combustible. Product is a primary eye irritant. Product may be a primary skin irritant. Pulmonary aspiration hazard if swallowed and/or vomiting occurs - can enter lungs and cause damage. Highway spills could result in slippery conditions. No other significant health effects are associated with this material.

3 POTENTIAL HEALTH EFFECTS OF DIRECT EXPOSURE

Product

Inhalation: Container vapor space may contain hydrogen sulfide. May cause respiratory irritation. Extended exposure to mist may cause upper respiratory irritation.

Eye Contact: Product is a primary eye irritant.

Skin Contact: Product may be a primary skin irritant.

Ingestion: Not orally toxic. Pulmonary aspiration hazard if swallowed and/or vomiting occurs - can enter lungs and cause damage.

Medical Conditions generally aggravated by exposure

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

Mild skin irritation (redness and dryness of hands) may be experienced when the product has been contaminated by certain oils or by dissolved metals. When problems occur, use of oil-resistant barrier creams may be a temporary control measure. Contact Milacron Marketing Company, Global Industrial Fluids Technical Services at 1-513-458-8199 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 Milacron Marketing Company, Global Industrial Fluids at 1-513-458-8199 for specific recommendations.

Based on our experience and the toxicity test results for this product, Milacron Marketing Company, Global Industrial Fluids believes that it does not subject users to significant health risks, except as noted above. This product has been formulated using chemicals, each having their own toxicological properties. It is Milacron Marketing Company, Global Industrial Fluids policy to inform users of the nature of these properties, even if they are not relevant to use in the finished product.

Toxicology testing is done by exposing animals to increasing doses of a chemical and noting the level at which an injury or discomfort is observed. The purpose of the test is to determine if a toxic effect may exist. Every chemical that is tested will show an adverse effect of some kind. Even water is toxic at some level. When reviewing toxicity data, the focus should not be the toxic effect itself, but the exposure level that caused the effect and the margin of safety between the toxic exposure level and the level of exposure expected during product use. As a rule of thumb, the margin of safety (the ratio of the no effect level in animals to the expected workplace exposure) when applying animal data to human exposure should be 100 or greater. This gives a safety factor to account for differences between animal responses and to allow for differing susceptibilities between individuals.

The NIOSH Recommended Exposure Limit for metalworking fluid mist is 0.5 mg/m³. The safety factors given below are based on the assumption that this is the worst-case exposure to this product.

Toxicity Test Results for components:

Olefin sulfide:

The manufacturer has established a recommended exposure limit of 1 mg/m³ TWA for the sulfide. At a total mist level of 0.5 mg/m³, the potential exposure to olefin sulfide would be less than 0.05 mg/m³.

In a four-week inhalation study, small increases in liver, adrenal and spleen weights were observed. A no effect level of 50 mg/m³ was observed in the study (margin of safety = 1,000). No pathological effects were observed in these organs and the organ weight effects were found to be reversible.

The 4-hour LC50 for inhalation exposure in both sexes of mice and guinea pigs exceeds 4,300 mg/m³, giving a margin of safety of over 86,000.

After a six-hour inhalation exposure at a concentration of 500 mg/m³, more than half the female rats but none of the male rats exposed died. The projected workplace exposure level to the olefin sulfide is 0.05 mg/m³. The toxic effects were observed at 10,000 times workplace exposure levels.

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.

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

Ingestion

If the material is swallowed, DO NOT INDUCE VOMITING. Immediately contact a physician and obtain treatment. Do not give liquids. Swallowing small quantities of 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/m³ for any airborne particulate as a nuisance level of exposure. NIOSH has set a REL of 0.5 mg/m³ 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/m³, 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/m³, 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/m³, 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, normal shop ventilation is adequate. 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.

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.

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
PETROLEUM DISTILLATES, HYDROTREATED HEAVY NAPHTHENIC	64742-52-5	70 - 100

7 FIRE AND EXPLOSION HAZARD DATA

Extinguishing Media

Chemical foam, carbon dioxide, or dry chemical

Hazardous Combustion Products

Smoke, fumes, oxides of sulfur, and oxides of carbon

Flash Point: 350 °F (176.7 °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. Contact Milacron Marketing Company, Global Industrial Fluids at 1-513-458-8199 for assistance.

For Unused Product

Product is not a hazardous waste as defined under 40 CFR 261. Contact Milacron Marketing Company, Global Industrial Fluids at 1-513-458-8199 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. Use only as recommended by Milacron Marketing Company, Global Industrial Fluids . If frozen, thaw completely at room temperature prior to use. Do not store product in direct sunlight or elevated temperatures.

Other Precautions

Product is combustible. Do not heat. Avoid open flames, sparks, and temperatures approaching the flash point.

11 PHYSICAL / CHEMICAL CHARACTERISTICS

Boiling Point:	Not Applicable
Specific Gravity:	0.9
Evaporation Rate:	Not Applicable
Solubility (H₂O):	Insoluble
Volatile Organic Content (by ASTM D2369):	0 %
pH (Concentrate):	Not Applicable
Recommended Starting Dilution:	Use undiluted
Appearance/Odor:	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. May react with corroding cast, gray, nodular, or other high iron containing swarf or chips to form potentially hazardous levels of hydrogen sulfide.

Hazardous Polymerization

Will not occur.

Combustion Products

Smoke, fumes, oxides of sulfur, and oxides of carbon

13 TRANSPORTATION INFORMATION

BY LAND

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

Not a Hazardous Material

U.S. Harmonized Tariff Code: 2710.19.3070

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
METALWORKING FLUID MIST	0.5 mg/m ³				
MINERAL OIL (MIST)	5 mg/m ³	5 mg/m ³		5 mg/m ³	

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 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

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

Disclaimer

NOTE: The opinions expressed herein are those of qualified experts within Milacron Marketing Company, Global Industrial Fluids 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 Milacron Marketing Company, Global Industrial Fluids, it is the user's obligation to determine the conditions of safe use of the product.