



MATERIAL SAFETY DATA SHEET

1. Chemical Product and Company Identification

Material name OAKFLO® DSY 910
METALWORKING FLUID

Version # 01

Issue date 07-31-2014

CAS # Mixture

MSDS Number Not applicable

Recommended use METALWORKING FLUID

Manufacturer

Company name CIMCOOL® Industrial Products LLC

Address 3000 Disney Street
Cincinnati, Ohio 45209

Emergency telephone number 1-800-424-9300 (CHEMTREC)

Telephone (General Information) 513-458-8199

Supplier

Company name Milacron Canada Corp.

Address 1175 Appleby Line Road, Unit B-1
Burlington Ontario L7L5H9 Canada

Emergency telephone number (outside USA) 1-703-527-3887 (CHEMTREC)

Telephone (General Information) 905-319-1919

2. Hazards Identification

Emergency overview Product is corrosive to aluminum. Causes eye irritation. Causes skin irritation. May cause irritation to the respiratory system. May be harmful if swallowed. Avoid prolonged contact with eyes, skin and clothing.

Potential health effects

Routes of exposure Inhalation. Ingestion. Skin contact. Eye contact.

Eyes Causes eye irritation. Do not get this material in contact with eyes.

Skin Irritating to skin. Avoid contact with the skin.

Inhalation May cause irritation of respiratory tract. Prolonged inhalation may be harmful.

Ingestion May be harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Do not ingest.

3. Composition/Information on Ingredients

Components	CAS #	Percent
TRIETHANOLAMINE	102-71-6	10 - 30
MONOETHANOLAMINE	141-43-5	3 - 7
HEXAHYDRO-1,3,5-TRIS (2-HYDROXYETHYL)-S- TRIAZINE	4719-04-4	1 - 5
Other components below reportable levels		60 - 100

4. FIRST AID MEASURES

First aid procedures

Eye contact Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

Skin contact Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. If irritation persists, get medical attention. Wash clothing separately before reuse.

Inhalation	If symptoms are experienced, remove source of contamination or move victim to fresh air. Call a physician if symptoms develop or persist.
Ingestion	Rinse mouth thoroughly. Do not induce vomiting. Drink 1 or 2 glasses of water. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Call a POISON CENTER or doctor/physician if you feel unwell.
Notes to physician	Provide general supportive measures and treat symptomatically. Symptoms may be delayed.
General advice	IF exposed or concerned: Get medical advice/attention. Take off all contaminated clothing immediately.

5. FIRE FIGHTING MEASURES

Flammable properties	The product is not flammable.
Extinguishing media	
Suitable extinguishing media	Water fog. Foam. Dry chemicals. Dry chemical powder. Carbon dioxide (CO2). Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	Not applicable, non-combustible.
Protection of firefighters	
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Protective equipment for firefighters	Wear suitable protective equipment.
Fire fighting equipment/instructions	Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials. In the event of fire and/or explosion do not breathe fumes. Move container from fire area if it can be done without risk.
Explosion data	
Sensitivity to static discharge	Not applicable.
Sensitivity to mechanical impact	Not applicable.
Hazardous combustion products	Smoke, fumes, oxides of nitrogen, and oxides of carbon

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Keep unnecessary personnel away. Wear appropriate personal protective equipment. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the MSDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground. Use appropriate containment to avoid environmental contamination. Contact local authorities in case of spillage to drain/aquatic environment.
Methods for containment	Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Prevent entry into waterways, sewer, basements or confined areas.
Methods for cleaning up	Local authorities should be advised if significant spillages cannot be contained. This product is miscible in water. Large Spills: Stop the flow of material, if this is without risk. Absorb in vermiculite, dry sand or earth and place into containers. Prevent product from entering drains. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the MSDS.
Other information	Clean up in accordance with all applicable regulations.

7. HANDLING AND STORAGE

Handling

Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. Do not breathe vapor. Do not ingest. Do not get this material on clothing. Avoid contact with skin and eyes. Avoid prolonged and repeated contact. Use only in well-ventilated areas. Observe good industrial hygiene practices. When using, do not eat, drink or smoke. Wash thoroughly after handling. Wash contaminated clothing before reuse. Practice good housekeeping. Handle and open container with care. Do not empty into drains.

Storage

To maintain product quality, do not store in heat or direct sunlight. Use care in handling/storage. Keep containers closed when not in use. Store in original container. Store away from incompatible materials (see Section 10 of the MSDS). Store in a well-ventilated place. Do not allow material to freeze. If frozen, product may separate. Thaw completely at room temperature and stir thoroughly prior to use.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure limits

US. ACGIH Threshold Limit Values

	Type	Value
MONOETHANOLAMINE (CAS 141-43-5)	STEL	6 ppm
TRIETHANOLAMINE (CAS 102-71-6)	TWA	5 mg/m ³
MONOETHANOLAMINE (CAS 141-43-5)	TWA	3 ppm

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

	Type	Value
MONOETHANOLAMINE (CAS 141-43-5)	STEL	15 mg/m ³
		6 ppm
	TWA	7.5 mg/m ³
TRIETHANOLAMINE (CAS 102-71-6)	TWA	5 mg/m ³
MONOETHANOLAMINE (CAS 141-43-5)	TWA	3 ppm

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

	Type	Value
MONOETHANOLAMINE (CAS 141-43-5)	STEL	6 ppm
TRIETHANOLAMINE (CAS 102-71-6)	TWA	5 mg/m ³
MONOETHANOLAMINE (CAS 141-43-5)	TWA	3 ppm

Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)

	Type	Value
MONOETHANOLAMINE (CAS 141-43-5)	STEL	6 ppm
TRIETHANOLAMINE (CAS 102-71-6)	TWA	5 mg/m ³
MONOETHANOLAMINE (CAS 141-43-5)	TWA	3 ppm

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

	Type	Value
MONOETHANOLAMINE (CAS 141-43-5)	STEL	6 ppm
TRIETHANOLAMINE (CAS 102-71-6)	TWA	3.1 mg/m ³
MONOETHANOLAMINE (CAS 141-43-5)	TWA	3 ppm
TRIETHANOLAMINE (CAS 102-71-6)	TWA	0.5 ppm

Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)

	Type	Value
MONOETHANOLAMINE (CAS 141-43-5)	STEL	15 mg/m3
		6 ppm
TRIETHANOLAMINE (CAS 102-71-6)	TWA	7.5 mg/m3
	TWA	5 mg/m3
MONOETHANOLAMINE (CAS 141-43-5)	TWA	3 ppm

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

	Type	Value
MONOETHANOLAMINE (CAS 141-43-5)	PEL	6 mg/m3
		3 ppm

Biological limit values

No biological exposure limits noted for the ingredient(s).

Engineering controls

Ensure compliance with applicable exposure limits. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash fountain and emergency showers are recommended.

Personal protective equipment**Eye / face protection**

Wear safety glasses with side shields. Do not get in eyes. Eye wash fountain is recommended.

Skin protection

Wear suitable protective clothing and gloves.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment.

9. PHYSICAL & CHEMICAL PROPERTIES

Appearance	CLEAR
Physical state	Liquid.
Form	Liquid.
Color	Not available.
Odor	CHEMICAL
Odor threshold	Not available.
pH	9.8
Vapor pressure	Not available.
Vapor density	Not available.
Boiling point	> 212 °F (> 100 °C)
Melting point/Freezing point	< 20 °F (< -6.7 °C)
Solubility (water)	100 % Water Miscible
Specific gravity	1.058
Relative density	Not available.
Flash point	Not Applicable
Flammability limits in air, upper, % by volume	Not available.
Flammability limits in air, lower, % by volume	Not available.
Auto-ignition temperature	Not available.
Evaporation rate	Like water when diluted
Other data	
pH in aqueous solution	9.1 @ 5%
VOC ASTM D2369	6 %

10. Stability and Reactivity**Chemical stability**

Material is stable under normal conditions.

Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Do not add sodium nitrite or other nitrosating agents which may form cancer causing nitrosamines. Strong acids. Strong oxidizing agents. Avoid contact with oxidizers or reducing agents.
Hazardous decomposition products	Smoke, fumes, oxides of nitrogen, and oxides of carbon
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use. Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Toxicological data

Components	Species	Test Results
MONOETHANOLAMINE (CAS 141-43-5)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	1025 mg/kg
<i>Inhalation</i>		
LC50	Mouse	> 1210 mg/m ³
<i>Oral</i>		
LD50	Guinea pig	620 mg/kg
	Mouse	700 mg/kg
	Rat	1515 mg/kg
<i>Other</i>		
LD50	Mouse	50 mg/kg
	Rat	67 mg/kg
TRIETHANOLAMINE (CAS 102-71-6)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	> 2000 mg/kg
<i>Oral</i>		
LD50	Guinea pig	5300 mg/kg
	Rat	8 g/kg
<i>Other</i>		
LD50	Mouse	1450 mg/kg

* Estimates for product may be based on additional component data not shown.

Acute effects	May be harmful if swallowed. May cause respiratory irritation.
Chronic effects	Prolonged exposure may cause chronic effects.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

TRIETHANOLAMINE (CAS 102-71-6) 3 Not classifiable as to carcinogenicity to humans.

Symptoms and target organs	Direct contact with eyes may cause temporary irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. Defatting of the skin.
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Further information	Symptoms may be delayed.
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12. ECOLOGICAL INFORMATION

Ecotoxicological data

Components	Species	Test Results
MONOETHANOLAMINE (CAS 141-43-5)		
Aquatic		
Fish	LC50 Rainbow trout, donaldson trout (Oncorhynchus mykiss)	114 - 196 mg/l, 96 hours

Components		Species	Test Results
TRIETHANOLAMINE (CAS 102-71-6)			
Aquatic			
Crustacea	EC50	Water flea (Ceriodaphnia dubia)	565.2 - 658.3 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	10610 - 13010 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Ecotoxicity	Contains a substance which causes risk of hazardous effects to the environment.
Environmental effects	Harmful to aquatic organisms. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Aquatic toxicity	Not classified.
Persistence and degradability	Not available.
Partition coefficient	
MONOETHANOLAMINE	-1.31
TRIETHANOLAMINE	-1
Mobility in environmental media	This product is miscible in water.

13. DISPOSAL CONSIDERATIONS

Disposal instructions	Do not contaminate ponds, waterways or ditches with chemical or used container. Consult authorities before disposal. Dispose of contents/container in accordance with local/regional/national/international regulations.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied. Do not re-use empty containers.

14. Transport Information

TDG

UN number	UN3267
UN proper shipping name	CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (MONOETHANOLAMINE)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	III
Environmental hazards	D
Special precautions for user	Read safety instructions, MSDS and emergency procedures before handling.

IATA

UN number	UN3267
UN proper shipping name	Corrosive liquid, basic, organic, n.o.s. (MONOETHANOLAMINE)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	III
Environmental hazards	No.
ERG Code	8L
Special precautions for user	Read safety instructions, MSDS and emergency procedures before handling. Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed.
Cargo aircraft only	Allowed.

IMDG

UN number	UN3267
UN proper shipping name	CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (MONOETHANOLAMINE)

Transport hazard class(es)

Class 8
Subsidiary risk -
Packing group III

Environmental hazards

Marine pollutant No.
EmS F-A, S-B

Special precautions for user Read safety instructions, MSDS and emergency procedures before handling. Read safety instructions, SDS and emergency procedures before handling.

IATA; IMDG; TDG

**15. REGULATORY INFORMATION****Canadian regulations**

This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

WHMIS status

Controlled

WHMIS classification

D2B - Other Toxic Effects-TOXIC
 E - Corrosive

WHMIS labeling**Inventory status**

Country(s) or region	Inventory name	On inventory or exempt (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	Yes
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

16. OTHER INFORMATION**HMIS® ratings**

Health: 1
 Flammability: 0
 Physical hazard: 0

NFPA ratings

Health: 1
 Flammability: 0
 Instability: 0

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Prepared by

Ann Ball

This data sheet contains changes from the previous version in section(s):

This document has undergone significant changes and should be reviewed in its entirety.