

## 1. Identification

**Product identifier** **MILFORM® 645**  
 STAMPING AND DRAWING FLUID

**Other means of identification**

**SDS number** Not applicable

**Product code** B00461

**Recommended use** STAMPING AND DRAWING FLUID

**Recommended restrictions** None known.

**Manufacturer/Importer/Supplier/Distributor information**

**Company name** CIMCOOL® Industrial Products LLC  
 3000 Disney Street  
 Cincinnati, Ohio 45209

**Telephone (General Information)** 513-458-8100

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

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

### Supplier

**Company name** DUBOIS CHEMICAL CANADA INC dba CIMCOOL® Canada

**Address** B1 – 1175 Appleby Line  
 Burlington, ON L7L 5H9 Canada

**Telephone (General Information)** 905-319-1919

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

**Supplier** Not available.

## 2. Hazard identification

**Physical hazards** Not classified.

**Health hazards** Serious eye irritation Category 2  
 Sensitization, skin Category 1

**Environmental hazards** Not classified.

### Label elements



**Signal word** Warning

**Hazard statement** May cause an allergic skin reaction. Causes serious eye irritation.

**Precautionary statement**

**Prevention** Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wear eye protection/face protection. Wear protective gloves.

<b>Response</b>	IF ON SKIN: Wash with plenty of water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If skin irritation or rash occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.
<b>Storage</b>	Store away from incompatible materials.
<b>Disposal</b>	Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Other hazards</b>	None known.
<b>Supplemental information</b>	2.73% of the mixture consists of component(s) of unknown acute oral toxicity. 4.73% of the mixture consists of component(s) of unknown acute dermal toxicity.

Use in manufacturing processes only.

The classified hazards shown on this SDS are associated with the product concentrate. These hazards are not expected under recommended use conditions and dilution.

### 3. Composition/information on ingredients

#### Mixtures

Chemical name	Common name and synonyms	CAS number	%
SEVERELY-HYDROTREATED NAPHTHENIC DISTILLATES		64742-52-5	30 - 60
ALKANES C14-16, CHLORO		63449-39-8	10 - 30
AMINOMETHYLPROPANOL		124-68-5	1 - 5
ARYLSULFONIC ACID, ALKYL DERIVATIVES, CALCIUM SALTS		93820-57-6	1 - 5
CYCLOCARBOXYPROPYLOLEIC ACID		53980-88-4	1 - 5
TRIETHANOLAMINE		102-71-6	1 - 5
4-(2-NITROBUTYL)MORPHOLINE		2224-44-4	0.1 - 1
Other components below reportable levels			10 - 30

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

### 4. First-aid measures

<b>Inhalation</b>	Move to fresh air. Call a physician if symptoms develop or persist. Under normal conditions of intended use, this material is not expected to be an inhalation hazard.
<b>Skin contact</b>	Rinse skin with water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
<b>Eye contact</b>	Rinse with water. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Rinse mouth thoroughly. Do not give liquids. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical advice/attention if you feel unwell.
<b>Most important symptoms/effects, acute and delayed</b>	Direct contact with eyes may cause temporary irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause an allergic skin reaction.
<b>Indication of immediate medical attention and special treatment needed</b>	Provide general supportive measures and treat symptomatically. Symptoms may be delayed.
<b>General information</b>	If exposed or concerned: Get medical advice/attention. Show this safety data sheet to the doctor in attendance.

### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Foam. Dry chemical powder. Carbon dioxide (CO <sub>2</sub> ). Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Unsuitable extinguishing media</b>	Do not use water jet as an extinguisher, as this will spread the fire.
<b>Specific hazards arising from the chemical</b>	During fire, gases hazardous to health may be formed.
<b>Special protective equipment and precautions for firefighters</b>	Wear suitable protective equipment.

<b>Fire fighting equipment/instructions</b>	Move containers from fire area if you can do so without risk.
<b>Specific methods</b>	Use standard firefighting procedures and consider the hazards of other involved materials. In the event of fire and/or explosion do not breathe fumes.
<b>General fire hazards</b>	No unusual fire or explosion hazards noted.

## 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures** Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist/vapors. 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 SDS.

**Methods and materials for containment and cleaning up** Local authorities should be advised if significant spillages cannot be contained. This product is miscible in water. Prevent entry into waterways, sewer, basements or confined areas. Clean up in accordance with all applicable regulations.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. 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 SDS.

**Environmental precautions** Contact local authorities in case of spillage to drain/aquatic environment. Avoid discharge into drains, water courses or onto the ground. Use appropriate containment to avoid environmental contamination.

## 7. Handling and storage

**Precautions for safe handling** Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. Do not get in eyes, on skin, or on clothing. Avoid breathing mist/vapors. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

**Conditions for safe storage, including any incompatibilities** Store in tightly closed container. If frozen, product may separate. Thaw completely at room temperature and stir thoroughly prior to use. Do not allow material to freeze. Store away from incompatible materials (see Section 10 of the SDS).

## 8. Exposure controls/personal protection

### Occupational exposure limits

#### ACGIH

Components	Type	Value
SEVERELY-HYDROTREATED NAPHTHENIC DISTILLATES (CAS 64742-52-5)	TWA	5 mg/m <sup>3</sup>

#### US. ACGIH Threshold Limit Values

Components	Type	Value
TRIETHANOLAMINE (CAS 102-71-6)	TWA	5 mg/m <sup>3</sup>

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

Components	Type	Value
TRIETHANOLAMINE (CAS 102-71-6)	TWA	5 mg/m <sup>3</sup>

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

Components	Type	Value
TRIETHANOLAMINE (CAS 102-71-6)	TWA	5 mg/m <sup>3</sup>

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

Components	Type	Value
TRIETHANOLAMINE (CAS 102-71-6)	TWA	5 mg/m <sup>3</sup>

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

Components	Type	Value
TRIETHANOLAMINE (CAS 102-71-6)	TWA	3.1 mg/m <sup>3</sup>
		0.5 ppm

**Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety)**

Components	Type	Value
TRIETHANOLAMINE (CAS 102-71-6)	TWA	5 mg/m <sup>3</sup>

**Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21)**

Components	Type	Value
TRIETHANOLAMINE (CAS 102-71-6)	15 minute	10 mg/m <sup>3</sup>
	8 hour	5 mg/m <sup>3</sup>

<b>Biological limit values</b>	No biological exposure limits noted for the ingredient(s).
<b>Appropriate engineering controls</b>	Good general ventilation 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.
<b>Individual protection measures, such as personal protective equipment</b>	
<b>Eye/face protection</b>	Wear safety glasses with side shields (or goggles). Do not get in eyes. Eye wash fountain is recommended.
<b>Skin protection</b>	
<b>Hand protection</b>	Nitrile gloves are recommended.
<b>Other</b>	Wear appropriate chemical resistant clothing.
<b>Respiratory protection</b>	In case of insufficient ventilation, wear suitable respiratory equipment.
<b>Thermal hazards</b>	Wear appropriate thermal protective clothing, when necessary.
<b>General hygiene considerations</b>	When using, do not eat, drink or smoke. Do not get in eyes, on skin, on clothing. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

**9. Physical and chemical properties**

<b>Appearance</b>	CLEAR
<b>Physical state</b>	Liquid.
<b>Form</b>	Liquid.
<b>Color</b>	Not available.
<b>Odor</b>	CHEMICAL
<b>Odor threshold</b>	Not available.
<b>pH</b>	9.8
<b>Melting point/freezing point</b>	< 32 °F (< 0 °C)
<b>Initial boiling point and boiling range</b>	Not Applicable
<b>Flash point</b>	355 °F (179.4 °C) Cleveland Open Cup
<b>Evaporation rate</b>	Like water when diluted
<b>Flammability (solid, gas)</b>	Not applicable.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit - lower (%)</b>	Not available.

<b>Flammability limit - upper (%)</b>	Not available.
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	Not available.
<b>Vapor pressure</b>	Not available.
<b>Vapor density</b>	Not available.
<b>Relative density</b>	Not available.
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	100 % Water Miscible
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Not available.
<b>Other information</b>	
<b>Explosive properties</b>	Not explosive.
<b>Flash point class</b>	Combustible IIIB
<b>Oxidizing properties</b>	Not oxidizing.
<b>pH in aqueous solution</b>	9.0 @ 20%
<b>Specific gravity</b>	1.019
<b>VOC ASTM D2369</b>	5 %

## 10. Stability and reactivity

<b>Reactivity</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
<b>Chemical stability</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions</b>	Hazardous polymerization does not occur.
<b>Conditions to avoid</b>	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Contact with incompatible materials.
<b>Incompatible materials</b>	Do not add sodium nitrite or other nitrosating agents which may form cancer causing nitrosamines. Acids. Oxidizing agents.
<b>Hazardous decomposition products</b>	Smoke, fumes, oxides of nitrogen, hydrogen chloride, and oxides of carbon

## 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	Health injuries are not known or expected under normal use.
<b>Skin contact</b>	May cause an allergic skin reaction.
<b>Eye contact</b>	Causes eye irritation.
<b>Ingestion</b>	Expected to be a low ingestion hazard.

**Symptoms related to the physical, chemical and toxicological characteristics** Direct contact with eyes may cause temporary irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause an allergic skin reaction.

### Information on toxicological effects

#### Acute toxicity

Components	Species	Test Results
ALKANES C14-16, CHLORO (CAS 63449-39-8)		
<b>Acute</b>		
<b>Dermal</b>		
<i>Liquid</i>		
LD50	Rabbit	> 2000 mg/kg

Components	Species	Test Results
<b>Oral</b> <i>Liquid</i> LD50	Rat	> 5000 mg/kg
AMINOMETHYLPROPANOL (CAS 124-68-5)		
<b>Acute</b> <b>Dermal</b> <i>Liquid</i> LD50	Rabbit	> 2000 mg/kg
<b>Oral</b> <i>Liquid</i> LD50	Rat	2900 mg/kg
ARYLSULFONIC ACID, ALKYL DERIVATIVES, CALCIUM SALTS (CAS 93820-57-6)		
<b>Acute</b> <b>Dermal</b> <i>Liquid</i> LD50	Rabbit	5000 mg/kg ATE
<b>Oral</b> <i>Liquid</i> LD50	Rat	> 2000 mg/kg ATE
CYCLOCARBOXYPROPYLOLEIC ACID (CAS 53980-88-4)		
<b>Acute</b> <b>Oral</b> <i>Liquid</i> LD50	Rat	6176 mg/kg
SEVERELY-HYDROTREATED NAPHTHENIC DISTILLATES (CAS 64742-52-5)		
<b>Acute</b> <b>Dermal</b> <i>Liquid</i> LD50	Rabbit	> 5000 mg/kg
<b>Inhalation</b> <i>Mist</i> LC50	Rat	> 5.1 mg/l, 4 hours ATE
<b>Oral</b> <i>Liquid</i> LD50	Rat	> 5000 mg/kg
TRIETHANOLAMINE (CAS 102-71-6)		
<b>Acute</b> <b>Dermal</b> <i>Liquid</i> LD50	Rabbit	> 2000 mg/kg
<b>Oral</b> <i>Liquid</i> LD50	Rat	4190 mg/kg
<b>Skin corrosion/irritation</b>	Not classified.	
<b>Serious eye damage/eye irritation</b>	Causes eye irritation.	
<b>Respiratory or skin sensitization</b>		
<b>Canada - Alberta OELs: Irritant</b>		
TRIETHANOLAMINE (CAS 102-71-6)		Irritant
<b>Canada - Quebec OELs: Sensitizer</b>		
TRIETHANOLAMINE (CAS 102-71-6)		Sensitizer.

<b>Respiratory sensitization</b>	Not a respiratory sensitizer.
<b>Skin sensitization</b>	May cause an allergic skin reaction.
<b>Germ cell mutagenicity</b>	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
<b>Carcinogenicity</b>	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.  Oil /Distillate meets the EU requirement of less than 3% (w/w) DMSO extract for total polycyclic aromatic compound (PAC) using IP 346.

#### IARC Monographs. Overall Evaluation of Carcinogenicity

	TRIETHANOLAMINE (CAS 102-71-6)	3 Not classifiable as to carcinogenicity to humans.
<b>Reproductive toxicity</b>	This product is not expected to cause reproductive or developmental effects.	
<b>Specific target organ toxicity - single exposure</b>	Not classified.	
<b>Specific target organ toxicity - repeated exposure</b>	Not classified.	
<b>Aspiration hazard</b>	Not an aspiration hazard.	
<b>Chronic effects</b>	Prolonged or repeated exposure may cause liver and kidney damage. These effects have not been observed in humans.	
<b>Further information</b>	The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available.	

## 12. Ecological information

**Ecotoxicity** Contains a substance which causes risk of hazardous effects to the environment.

Components	Species		Test Results
ALKANES C14-16, CHLORO (CAS 63449-39-8)			
<b>Aquatic</b>			
<i>Acute</i>			
Fish	LC50	Bluegill ( <i>Lepomis macrochirus</i> )	> 0.1 mg/l, 96 hours
AMINOMETHYLPROPANOL (CAS 124-68-5)			
<b>Aquatic</b>			
<i>Acute</i>			
Crustacea	EC50	Daphnia	193 mg/l, 48 hours
Fish	LC50	Bluegill ( <i>Lepomis macrochirus</i> )	190 mg/l, 96 hours
CYCLOCARBOXYPROPYLOLEIC ACID (CAS 53980-88-4)			
<b>Aquatic</b>			
<i>Acute</i>			
Crustacea	EC50	Daphnia	22.5 mg/l, 48 hours
Fish	LC50	Fathead minnow ( <i>Pimephales promelas</i> )	15 mg/l, 96 hours
TRIETHANOLAMINE (CAS 102-71-6)			
<b>Aquatic</b>			
Crustacea	EC50	Water flea ( <i>Ceriodaphnia dubia</i> )	565.2 - 658.3 mg/l, 48 hours
<i>Acute</i>			
Fish	LC50	Bluegill ( <i>Lepomis macrochirus</i> )	450 - 1000 mg/l, 96 hours

**Persistence and degradability** No data is available on the degradability of any ingredients in the mixture.

#### Bioaccumulative potential

<b>Partition coefficient n-octanol / water (log Kow)</b>	
CYCLOCARBOXYPROPYLOLEIC ACID	6.5
TRIETHANOLAMINE	-2.3

**Mobility in soil** This product is miscible in water.

**Other adverse effects** No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

### 13. Disposal considerations

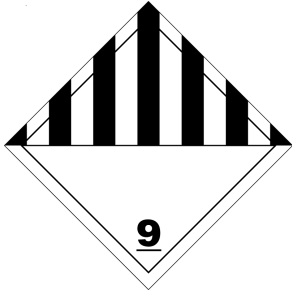
<b>Disposal instructions</b>	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Local disposal regulations</b>	Dispose in accordance with all applicable regulations.
<b>Hazardous waste code</b>	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
<b>Waste from residues / unused products</b>	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).
<b>Contaminated packaging</b>	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

### 14. Transport information

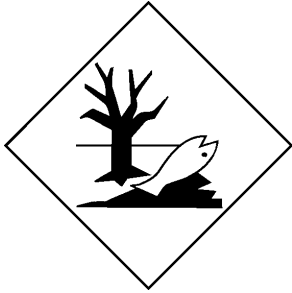
<b>TDG</b>	
<b>UN number</b>	UN3082
<b>UN proper shipping name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (ALKANES C14-16, CHLORO)
<b>Transport hazard class(es)</b>	
<b>Class</b>	9
<b>Subsidiary risk</b>	-
<b>Packing group</b>	III
<b>Environmental hazards</b>	E3
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.
<b>IATA</b>	
<b>UN number</b>	UN3082
<b>UN proper shipping name</b>	Environmentally hazardous substance, liquid, n.o.s. (ALKANES C14-16, CHLORO)
<b>Transport hazard class(es)</b>	
<b>Class</b>	9
<b>Subsidiary risk</b>	-
<b>Packing group</b>	III
<b>Environmental hazards</b>	Yes
<b>ERG Code</b>	9L
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.
<b>Other information</b>	
<b>Passenger and cargo aircraft</b>	Allowed with restrictions.
<b>Cargo aircraft only</b>	Allowed with restrictions.
<b>IMDG</b>	
<b>UN number</b>	UN3082
<b>UN proper shipping name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (ALKANES C14-16, CHLORO), MARINE POLLUTANT
<b>Transport hazard class(es)</b>	
<b>Class</b>	9
<b>Subsidiary risk</b>	-
<b>Packing group</b>	III
<b>Environmental hazards</b>	
<b>Marine pollutant</b>	Yes
<b>EmS</b>	F-A, S-F
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.
<b>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b>	Not established.



IATA; IMDG; TDG



Marine pollutant



General information

IMDG Regulated Marine Pollutant.

## 15. Regulatory information

Canadian regulations

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

### Controlled Drugs and Substances Act

Not regulated.

### Export Control List (CEPA 1999, Schedule 3)

Not listed.

### Greenhouse Gases

Not listed.

### Precursor Control Regulations

Not regulated.

### International regulations

#### Stockholm Convention

Not applicable.

#### Rotterdam Convention

Not applicable.

#### Kyoto protocol

Not applicable.

#### Montreal Protocol

Not applicable.

#### Basel Convention

Not applicable.

### International Inventories

Country(s) or region	Inventory name	On inventory or exempt (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
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)	No

Country(s) or region	Inventory name	On inventory or exempt (yes/no)*
New Zealand	New Zealand Inventory	No
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

**Issue date** 05-14-2017

**Revision date** 02-08-2021

**Version #** 05

**NFPA ratings**  
 Health: 1  
 Flammability: 1  
 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.

**Revision information**  
 Composition / Information on Ingredients: Component Summary  
 Physical & Chemical Properties: Multiple Properties  
 Physical and chemical properties: Odor  
 Toxicological information: Aspiration hazard  
 Toxicological information: Chronic effects  
 Toxicological information: Ingestion  
 Toxicological information: Inhalation  
 Ecological information: Mobility in soil  
 Disposal considerations: Disposal instructions  
 Regulatory information: Canadian regulations  
 GHS: Classification