# MATERIAL SAFETY DATA SHEET

## 1. Product and Company Identification

**Material name** **CIMTECH® 285**
METALWORKING FLUID

**Version #** 02

**Issue date** 08-20-2014

**Revision date** 09-12-2014

**Supersedes date** 08-20-2014

**CAS #** Mixture

**Product use** METALWORKING FLUID

**Manufacturer**

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

**Telephone (General Information)** 513-458-8199

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

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

## 2. Hazards Identification

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

**OSHA regulatory status** This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).

**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** Prolonged inhalation may be harmful. Health injuries are not known or expected under normal use.

**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 |
|---|---|---|
| MONOETHANOLAMINE | 141-43-5 | 2.5 - 10 |
| MONOISOPROPANOLAMINE | 78-96-6 | 2.5 - 10 |
| NEODECANOIC ACID | 26896-20-8 | 2.5 - 10 |
| TRIETHANOLAMINE | 102-71-6 | 2.5 - 10 |
| NONANOIC ACID | 112-05-0 | 1 - 2.5 |
| Other components below reportable levels | | 80 - 90 |

## 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 skin irritation or rash occurs: Get medical advice/attention. Wash clothing separately before reuse.

**Inhalation** If symptoms are experienced, remove source of contamination or move victim to fresh air. Under normal conditions of intended use, this material is not expected to be an inhalation hazard.

| | |
|---|---|
| **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. Show this safety data sheet to the doctor in attendance. |

## 5. Fire Fighting Measures

| | |
|---|---|
| **Flammable properties** | The product is not flammable. |
| **Extinguishing media** | |
| **Suitable extinguishing media** | Water fog. Foam. Dry chemical powder. Dry chemicals. 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 and precautions 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. Move container from fire area if it can be done without risk. In the event of fire and/or explosion do not breathe fumes. |
| **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 touch damaged containers or spilled material unless wearing appropriate protective clothing. Do not breathe mist or vapor. 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** | 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. |
| **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** | This product is miscible in water.<br><br>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.<br><br>Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.<br><br>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. 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 this material away from food, drink and animal feed. Keep containers closed when not in use. Store in original container. Store away from incompatible materials (see Section 10 of the MSDS). Do not allow material to freeze. Room temperature - normal conditions. 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/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 (or goggles). Do not get in eyes. Eye wash fountain is recommended.

**Skin protection** Wear suitable protective clothing and gloves. Use protective gloves made of: Nitrile.

**Respiratory protection** In case of insufficient ventilation, wear suitable respiratory equipment.

**General hygiene considerations** 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 & Chemical Properties

**Appearance** CLEAR

**Physical state** Liquid.

**Form** Liquid.

**Color** Not available.

**Odor** CHEMICAL

**Odor threshold** Not available.

**pH** 9.9

**Vapor pressure** Not available.

**Vapor density** Not available.

**Boiling point** > 212 °F (> 100 °C)

**Melting point/Freezing point** < 22 °F (< -5.6 °C)

**Solubility (water)** 100 % Water Miscible

**Specific gravity** 1.036

**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** | 11 % |

## 10. Chemical Stability & Reactivity Information

| | |
|---|---|
| **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. |

## 11. Toxicological Information

**Toxicological data**

| Components | Species | Test Results |
|---|---|---|
| MONOETHANOLAMINE (CAS 141-43-5) | | |
| **Acute** | | |
| *Dermal* | | |
| LD50 | Rabbit | 1025 mg/kg |
| *Inhalation* | | |
| LC50 | Mouse | > 1210 mg/m³ |
| *Oral* | | |
| LD50 | Guinea pig | 620 mg/kg |
| | Mouse | 700 mg/kg |
| | Rat | 1515 mg/kg |
| *Other* | | |
| LD50 | Mouse | 50 mg/kg |
| | Rat | 67 mg/kg |
| MONOISOPROPANOLAMINE (CAS 78-96-6) | | |
| **Acute** | | |
| *Dermal* | | |
| LD50 | Rabbit | 1576 mg/kg |
| *Inhalation* | | |
| LC0 | Rat | 1005 mg/m³, 3 hours |
| *Oral* | | |
| LD50 | Rat | 1715 mg/kg |
| NEODECANOIC ACID (CAS 26896-20-8) | | |
| **Acute** | | |
| *Dermal* | | |
| LD50 | Rabbit | > 3160 mg/kg |
| *Inhalation* | | |
| LD50 | Rat | > 511 mg/m³ |
| | | > 3 mg/l |
| *Oral* | | |
| LD50 | Rat | 2000 mg/kg |
| NONANOIC ACID (CAS 112-05-0) | | |
| **Acute** | | |
| *Dermal* | | |
| LD50 | Rabbit | > 5000 mg/kg |

| Components | Species | Test Results |
|---|---|---|
| *Oral* | | |
| LD50 | Mouse | 15000 mg/kg |
| *Other* | | |
| LD50 | Mouse | 224 mg/kg |
| TRIETHANOLAMINE (CAS 102-71-6) | | |
| **Acute** | | |
| *Dermal* | | |
| LD50 | Rabbit | > 2000 mg/kg |
| *Oral* | | |
| LD50 | Guinea pig | 5300 mg/kg |
| | Rat | 8 g/kg |
| *Other* | | |
| LD50 | Mouse | 1450 mg/kg |

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

**Acute effects** May be harmful if swallowed.

**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.

**US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not listed.

**Skin corrosion/irritation** Prolonged skin contact may cause temporary irritation. Defatting, drying and cracking of skin.

**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.

**Further information** Symptoms may be delayed.

## 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 |
| MONOISOPROPANOLAMINE (CAS 78-96-6) | | | |
| **Aquatic** | | | |
| Fish | LC50 | Goldfish (Carassius auratus) | 210 mg/l, 96 hours |
| NONANOIC ACID (CAS 112-05-0) | | | |
| *Acute* | | | |
| Crustacea | EC50 | Daphnia | 96 mg/l, 48 hours |
| **Aquatic** | | | |
| *Acute* | | | |
| Fish | LC50 | Rainbow trout,donaldson trout (Oncorhynchus mykiss) | 91 mg/l, 96 hours |
| 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** An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

**Persistence and degradability** Not available.

**Bioaccumulation / Accumulation**

**Bioaccumulative potential**

**Octanol/water partition coefficient log Kow**

| | |
|---|---|
| MONOETHANOLAMINE | -1.31 |
| MONOISOPROPANOLAMINE | -1.19 |
| NONANOIC ACID | 3.42 |
| TRIETHANOLAMINE | -1 |

**Mobility in environmental media** This product is miscible in water.

## 13. Disposal Considerations

**Waste codes** The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

**Disposal instructions** Consult authorities before disposal. Do not contaminate ponds, waterways or ditches with chemical or used container. 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

**DOT**

**UN number** UN3267

**UN proper shipping name** Corrosive liquid, basic, organic, n.o.s. (MONOETHANOLAMINE)

**Transport hazard class(es)**

**Class** 8

**Subsidiary risk** -

**Label(s)** 8

**Packing group** III

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

**Special provisions** IB3, T7, TP1, TP28

**Packaging exceptions** 154

**Packaging non bulk** 203

**Packaging bulk** 241

Supplemental Information: This Product Concentrate is corrosive only to Aluminum. Per 49CFR 173.154(d)(1) Except for a hazardous substance, a hazardous waste, or a marine pollutant, a material classed as Class 8 Packing Group III, solely because of its corrosive effect on aluminum - is not subject to any other requirements of this subchapter when transported by motor vehicle or rail car in packaging that will not react or be degraded by the corrosive material.

**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. |

**DOT**


**IATA; IMDG**


## 15. Regulatory Information

**US federal regulations** This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. It may be reportable under the provisions of SARA Sections 311 and 312 if specific threshold criteria are met or exceeded.

**Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number**

Not listed.

**Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))**

Not regulated.

**DEA Exempt Chemical Mixtures Code Number**

Not regulated.

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

**CERCLA (Superfund) reportable quantity**

None

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**Hazard categories** Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

**Section 302 extremely hazardous substance**

Not listed.

**SARA 311/312 Hazardous chemical** Yes

**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)

**State regulations**

**US - New Jersey RTK - Substances: Listed substance**

| | |
|---|---|
| MONOETHANOLAMINE (CAS 141-43-5) | Listed. |
| MONOISOPROPANOLAMINE (CAS 78-96-6) | Listed. |
| TRIETHANOLAMINE (CAS 102-71-6) | Listed. |

**US. Massachusetts RTK - Substance List**

MONOETHANOLAMINE (CAS 141-43-5)
MONOISOPROPANOLAMINE (CAS 78-96-6)
TRIETHANOLAMINE (CAS 102-71-6)

**US. Pennsylvania RTK - Hazardous Substances**

| | |
|---|---|
| MONOETHANOLAMINE (CAS 141-43-5) | Listed. |
| MONOISOPROPANOLAMINE (CAS 78-96-6) | Listed. |
| TRIETHANOLAMINE (CAS 102-71-6) | Listed. |

**US. Rhode Island RTK**

Not regulated.

**US state regulations**

**California South Coast Air Quality Management District (SCAQMD) Rule 1144 (VOC Emissions)** This product is subject to SCAQMD Rule 1144; it is compliant and may be sold and used in the SCAQMD. The VOC content of the product is 84 g/L, measured by ASTM Method E-1868-10. This product has a specified use dilution VOC limit of 75 g/L, the maximum dilution concentration is 90 % to maintain compliance.

## 16. Other Information

**Further information** HMIS® is a registered trade and service mark of the NPCA.

**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.

**This data sheet contains changes from the previous version in section(s):**
Composition / Information on Ingredients: Ingredients
Exposure Controls / Personal Protection: Skin protection
Physical & Chemical Properties: Multiple Properties