



Cargille Refractive Index Liquid Series M

nD=1.781-1.800

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Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200) and WHMIS 2015 regulations

Printing date: 09/02/2016

Revision: 09/02/2016

1 Identification

· **Product identifier**

· **Trade name:** Cargille Refractive Index Liquid Series M - nD=1.781-1.800

· **Product code:** 18151, 18152, 1815X, 1815Y, 19153

· **Recommended use and restriction on use**

· **Recommended use:**

This SDS or an accurate copy is an integral part of using Refractive Index Liquid Series M. Only use Refractive Index Liquid Series M if the SDS is present. Conditions prevailing in this document, unless otherwise noted: Temperature = 23°C (73°F), Pressure = 1013.25 hPa (760 mm Hg).

Professional and R&D use only. Conditions of Intended Use: (ABBR. C.I.U.) As an Optical Refractive Index Liquid at normal room pressure 101.32 kPa (760 mm Hg), temperature 18°C to 40°C (65°F to 104°F) in a non misted/non airborne state in a room having a normal air changes (2)/ HR., in a trained and supervised laboratory/ industrial setting using standard Good Laboratory/ Good Manufacturing procedures.

Note: Product normally sold in 1/4 oz (7.4cc), 1 oz (30cc), 4 oz (120cc), and 16 oz (480cc) quantities. Used in single drop to a few cubic centimeters per application. See requisitioner for specific quantities involved.

· **Restrictions on use:** Contact manufacturer

· **Details of the supplier of the Safety Data Sheet**

· **Manufacturer/Supplier:**

Cargille Laboratories
55 Commerce Road
Cedar Grove, NJ 07009-1289 USA
973-239-6633
www.cargille.com

· **Emergency telephone number:**

ChemTel Inc.
(800)255-3924, +1 (813)248-0585

2 Hazard(s) identification

· **Classification of the substance or mixture**

Met. Corr. 1	H290	May be corrosive to metals.
Acute Tox. 4	H302	Harmful if swallowed.
Skin Corr. 1C	H314	Causes severe skin burns and eye damage.
Eye Dam. 1	H318	Causes serious eye damage.
STOT SE 3	H335	May cause respiratory irritation.
STOT RE 1	H372-H373	Causes damage to organs through prolonged or repeated exposure. May cause damage to the thyroid through prolonged or repeated exposure.

· **Label elements**

· **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

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· **Hazard pictograms:**



GHS05 GHS07 GHS08

· **Signal word:** Danger

· **Hazard statements:**

- H290 May be corrosive to metals.
- H302 Harmful if swallowed.
- H314 Causes severe skin burns and eye damage.
- H335 May cause respiratory irritation.
- H372-H373 Causes damage to organs through prolonged or repeated exposure. May cause damage to the thyroid through prolonged or repeated exposure.

· **Precautionary statements:**

- P260 Do not breathe dusts or mists.
- P264 Wash thoroughly after handling.
- P280 Wear protective gloves.
- P280 Wear eye protection / face protection.
- P234 Keep only in original container.
- P270 Do not eat, drink or smoke when using this product.
- P271 Use only outdoors or in a well-ventilated area.
- P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P310 Immediately call a POISON CENTER/doctor.
- P321 Specific treatment (see on this label).
- P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P363 Wash contaminated clothing before reuse.
- P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
- P301+P330+P331 If swallowed: Rinse mouth. Do NOT induce vomiting.
- P314 Get medical advice/attention if you feel unwell.
- P390 Absorb spillage to prevent material damage.
- P405 Store locked up.
- P406 Store in corrosive resistant container with a resistant inner liner.
- P403+P233 Store in a well-ventilated place. Keep container tightly closed.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Other hazards** There are no other hazards not otherwise classified that have been identified.

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3 Composition/information on ingredients

· Chemical characterization: Mixtures

· Components:

Trade Secret	>80%
 Eye Dam. 1, H318  Acute Tox. 4, H302; Skin Irrit. 2, H315; STOT SE 3, H335	
Trade Secret	2.5-10%
 STOT RE 1, H372  Skin Corr. 1B, H314; Eye Dam. 1, H318  Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332	
Trade Secret	2.5-10%
 Skin Irrit. 2, H315	

· Additional information:

For the listed ingredient(s), the identity and/or exact percentage(s) are being withheld as a trade secret.
For the wording of the listed Hazard Statements refer to section 16.

4 First-aid measures

· Description of first aid measures

· General information:

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

· **After inhalation:** Supply fresh air; consult doctor in case of complaints.

· **After skin contact:** Immediately wash with water and soap and rinse thoroughly.

· After eye contact:

Protect unharmed eye.

Remove contact lenses if worn.

Rinse opened eye for several minutes under running water. Then consult a doctor.

· After swallowing:

Rinse out mouth and then drink plenty of water.

Do not induce vomiting; immediately call for medical help.

· Most important symptoms and effects, both acute and delayed:

Coughing

Caustic effect on skin and mucous membranes.

Gastric or intestinal disorders when ingested.

· Danger:

Danger of gastric perforation.

Danger of disturbed cardiac rhythm.

Causes serious eye damage.

Harmful if swallowed.

May cause damage to the thyroid through prolonged or repeated exposure.

· Indication of any immediate medical attention and special treatment needed:

Contains iodine. Consult literature for specific antidotes.

Medical supervision for at least 48 hours.

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If necessary oxygen respiration treatment.

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5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **For safety reasons unsuitable extinguishing agents:** None.
- **Special hazards arising from the substance or mixture**
During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.
- **Additional information:** Cool endangered receptacles with water in flooding quantities.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures:**
Wear protective equipment. Keep unprotected persons away.
For large spills, use respiratory protective device against the effects of fumes/dust/aerosol.
Ensure adequate ventilation.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Send for recovery or disposal in suitable receptacles.
- **Reference to other sections:**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling**
- **Precautions for safe handling:**
Prevent formation of aerosols.
Use only in well ventilated areas.
Avoid splashes or spray in enclosed areas.
- **Information about protection against explosions and fires:**
Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and receptacles:**
Avoid storage near extreme heat, ignition sources or open flame.
Provide ventilation for receptacles.

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· **Information about storage in one common storage facility:**

- Store away from foodstuffs.
- Store away from oxidizers, strong acids, strong bases.
- Store away from metals.

· **Further information about storage conditions:**

Storage Temperatures : 65 - 90 °F / 18 - 32 °C.

Protect from sunlight.

Keep containers tightly sealed.

Store in dry conditions.

· **Specific end use(s):** No relevant information available.

8 Exposure controls/personal protection

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

· **Engineering controls:** No relevant information available.

· **Breathing equipment:**

Use suitable respiratory protective device when aerosol or mist is formed.

Use suitable respiratory protective device when high concentrations are present.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

· **Eye protection:**

Contact lenses should not be worn.



Safety glasses

Follow relevant national guidelines concerning the use of protective eyewear.

· **Body protection:**

Protective work clothing

Protection may be required for spills.

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- **Limitation and supervision of exposure into the environment**
No relevant information available.

9 Physical and chemical properties

· Information on basic physical and chemical properties

· Appearance:

Form: Liquid

Color: Yellow

· Odor: Characteristic

· Odor threshold: Not determined.

· pH-value: Not determined.

· Melting point/Melting range: 5 °C (41 °F)

· Boiling point/Boiling range: ≥ 181 °C (≥ 358 °F)

· Flash point: >110 °C (>230 °F) (Open Cup)

· Flammability (solid, gaseous): Not applicable.

· Auto-ignition temperature: 260 °C (500 °F)

· Decomposition temperature: Not determined.

· Danger of explosion: Product does not present an explosion hazard.

· Explosion limits

Lower: Not determined.

Upper: Not determined.

· Oxidizing properties: Not determined.

· Vapor pressure: 2.00 hPa (1.5 mm Hg)

· Density at 20 °C (68 °F): 3.7 g/cm³ (30.877 lbs/gal)

· Relative density: Not determined.

· Vapor density: App. 9 (water = 1.0)

· Evaporation rate: App. 1.0 (water = 1.0)

· Solubility in / Miscibility with

Water: Slightly soluble.

· Partition coefficient (n-octanol/water): Not determined.

· Viscosity

Dynamic: Not determined.

Kinematic at 25 °C: 2 cSt

· Other information: No relevant information available.

10 Stability and reactivity

- **Reactivity:** No relevant information available.

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- **Chemical stability:** Stable under normal temperatures and pressures.
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
- **Possibility of hazardous reactions:**
Toxic fumes may be released if heated above the decomposition point.
Reacts with water.
Reacts with strong acids.
Reacts with alkali (lyes).
Reacts with amines.
Reacts with certain metals.
Develops corrosive gases / fumes.
Corrosive action on metals.
Reacts with strong oxidizing agents.
- **Conditions to avoid:** No relevant information available.
- **Incompatible materials:** No relevant information available.
- **Hazardous decomposition products:**
Iodine compounds
Sulfur oxides (SO_x)

11 Toxicological information

· Information on toxicological effects

· Acute toxicity:

· LD/LC50 values that are relevant for classification:

Trade Secret

Oral LD50 2000 mg/kg (rat)

Trade Secret

Oral LD50 501-2000 mg/kg (rat)

· Primary irritant effect:

- **On the skin:** Caustic effect on skin and mucous membranes.
- **On the eye:** Strong irritant with the danger of severe eye injury.
- **Sensitization:** Based on available data, the classification criteria are not met.

· IARC (International Agency for Research on Cancer):

None of the ingredients are listed.

· NTP (National Toxicology Program):

None of the ingredients are listed.

· OSHA-Ca (Occupational Safety & Health Administration):

None of the ingredients are listed.

· Probable route(s) of exposure:

Ingestion.
Inhalation.
Eye contact.
Skin contact.

· Acute effects (acute toxicity, irritation and corrosivity):

Harmful if swallowed.

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Causes severe skin burns and eye damage.

May cause respiratory irritation.

Irritating to respiratory system.

· **Repeated dose toxicity:**

May cause damage to the thyroid through prolonged or repeated exposure.

Danger of very serious irreversible effects.

Causes damage to organs through prolonged or repeated exposure.

· **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**

· **Germ cell mutagenicity:** Based on available data, the classification criteria are not met.

· **Carcinogenicity:** Based on available data, the classification criteria are not met.

· **Reproductive toxicity:** Based on available data, the classification criteria are not met.

· **STOT-single exposure:** May cause respiratory irritation.

· **STOT-repeated exposure:** Causes damage to organs through prolonged or repeated exposure.

· **Aspiration hazard:** Based on available data, the classification criteria are not met.

12 Ecological information

· **Toxicity**

· **Aquatic toxicity** No relevant information available.

· **Persistence and degradability** No relevant information available.

· **Bioaccumulative potential:** No relevant information available.

· **Mobility in soil:** No relevant information available.

· **Ecotoxicological effects:**

· **Remark:** Harmful to fish

· **Additional ecological information**

· **General notes:**

Do not allow product to reach ground water, water course or sewage system.

Harmful to aquatic organisms

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **Other adverse effects:** No relevant information available.

13 Disposal considerations

· **Waste treatment methods**

· **Recommendation:**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes. Residual materials should be treated as hazardous.

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- **Uncleaned packagings**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- | | |
|---|--|
| · UN-Number | UN1760 |
| · DOT, ADR, IMDG, IATA | |
| · UN proper shipping name | CORROSIVE LIQUID, N.O.S. (TIN TETRAIODIDE) |
| · DOT, ADR, IMDG, IATA | |
| · Transport hazard class(es) | |
| · DOT | |
|  | |
| · Class | 8 Corrosive substances |
| · Label | 8 |
| · ADR | |
|  | |
| · Class | 8 (C9) Corrosive substances |
| · Label | 8 |
| · IMDG, IATA | |
|  | |
| · Class | 8 Corrosive substances |
| · Label | 8 |
| · Packing group | III |
| · DOT, ADR, IMDG, IATA | |
| · Environmental hazards | |
| · Marine pollutant: | No |
| · Special precautions for user | Warning: Corrosive substances |
| · Danger code (Kemler): | 80 |
| · EMS Number: | F-A, S-B |
| · Segregation groups | Liquid halogenated hydrocarbons |

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· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

· **Transport/Additional information:**

· **DOT**



Limited Quantity for packages less than 30 kg gross and inner packagings less than 5 L.

· **ADR**



Limited Quantity for packages less than 30 kg gross and inner packagings less than 5 L.

· **Excepted quantities (EQ)**

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

· **IMDG**



Limited Quantity for packages less than 30 kg gross and inner packagings less than 5 L.

· **Excepted quantities (EQ)**

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

· **IATA**



Limited Quantity for packages less than 30 kg gross and inner packagings less than 1 L.

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **United States (USA)**

· **SARA**

· **Section 302 (extremely hazardous substances):**

None of the ingredients are listed.

· **Section 355 (extremely hazardous substances):**

None of the ingredients are listed.

· **Section 313 (Specific toxic chemical listings):**

None of the ingredients are listed.

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· **TSCA (Toxic Substances Control Act)**

All ingredients are listed.

· **Proposition 65 (California)**

· **Chemicals known to cause cancer:**

None of the ingredients are listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients are listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients are listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency):**

None of the ingredients are listed.

· **IARC (International Agency for Research on Cancer):**

None of the ingredients are listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health):**

None of the ingredients are listed.

· **Canadian Domestic Substances List (DSL):**

All ingredients are listed.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product. The information supplied is based on data available to us and is believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to this information presented and Cargille Laboratories assumes no responsibility for the result of the use of this product. This information is furnished upon the condition that the persons responsible for its use shall make their own determination of the suitability of the material for their particular purpose. Please note that we consider the English version to be the authoritative version for compliance and regulatory purposes.

· **Date of preparation / last revision** 09/02/2016 / -

· **Abbreviations and acronyms:**

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

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vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
LDLo: Lowest Lethal Dose Observed
Met. Corr. 1: Corrosive to metals – Category 1
Acute Tox. 4: Acute toxicity – Category 4
Skin Corr. 1B: Skin corrosion/irritation – Category 1B
Skin Corr. 1C: Skin corrosion/irritation – Category 1C
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

Sources

Website, European Chemicals Agency (echa.europa.eu)
Website, US EPA Substance Registry Services (ofmpub.epa.gov/sorinternet/registry/substreg/home/overview/home.do)
Website, Chemical Abstracts Registry, American Chemical Society (www.cas.org)
Patty's Industrial Hygiene, 6th ed., Rose, Vernon, ed. ISBN: ISBN: 978-0-470-07488-6
Casarett and Doull's Toxicology: The Basic Science of Poisons, 8th Ed., Klaasen, Curtis D., ed., ISBN: 978-0-07-176923-5.
Safety Data Sheets, Individual Manufacturers

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