

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier**

• **Trade name:** Cargille Refractive Index Liquid Series M - nD=1.701-1.735

• **Product code:** 18151, 18152, 1815X, 1815Y, 19151, 19152

1.2 Relevant identified uses of the substance or mixture and uses advised against

• **Sector of Use** SU24 Scientific research and development

• **Application of the substance / the mixture:**

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).

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.

• **Uses advised against:** Contact manufacturer.

1.3 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
compliance@cargille.com
www.cargille.com

1.4 Emergency telephone number:

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

SECTION 2: Hazards identification**2.1 Classification of the substance or mixture****Classification according to Regulation (EC) No 1272/2008**

Acute Tox. 4	H302 Harmful if swallowed.
Skin Irrit. 2	H315 Causes skin irritation.
Eye Dam. 1	H318 Causes serious eye damage.
STOT SE 3	H335 May cause respiratory irritation.
Aquatic Chronic 2	H411 Toxic to aquatic life with long lasting effects.

2.2 Label elements**Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the CLP regulation.

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· **Hazard pictograms**

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GHS05 GHS07 GHS09

· **Signal word** Danger

· **Hazard-determining components of labelling:**

diiodomethane

· **Hazard statements**

H302 Harmful if swallowed.

H315 Causes skin irritation.

H318 Causes serious eye damage.

H335 May cause respiratory irritation.

H411 Toxic to aquatic life with long lasting effects.

· **Precautionary statements**

P261 Avoid breathing mist/vapours/spray.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P273 Avoid release to the environment.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P302+P352 IF ON SKIN: Wash with plenty of water.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

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

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

· **Components:**

CAS: 3842-58-8	hydrogenated terphenyl Aquatic Chronic 4, H413	40-60%
CAS: 75-11-6 EINECS: 200-841-5	diiodomethane Eye Dam. 1, H318 Acute Tox. 4, H302; Skin Irrit. 2, H315; STOT SE 3, H335	40-60%
CAS: 26140-60-3 EINECS: 247-477-3 Reg.nr.: 01-2119488220-43-XXXX	Terphenyl Aquatic Chronic 1, H410	1-<2,5%

· **Additional information:** For the wording of the listed Hazard Statements refer to section 16.

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SECTION 4: First aid measures

· 4.1 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; call for medical help immediately.

· **4.2 Most important symptoms and effects, both acute and delayed**

Coughing

Irritant to skin and mucous membranes.

Strong irritant with the danger of severe eye injury.

May cause respiratory irritation.

· **Hazards:**

Causes serious eye damage.

Harmful if swallowed.

· **4.3 Indication of any immediate medical attention and special treatment needed**

Medical supervision for at least 48 hours.

If necessary oxygen respiration treatment.

SECTION 5: Firefighting measures

· **5.1 Extinguishing media**

· **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.

· **For safety reasons unsuitable extinguishing agents:** None.

· **5.2 Special hazards arising from the substance or mixture**

During heating or in case of fire poisonous gases are produced.

· **5.3 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.

SECTION 6: Accidental release measures

· **6.1 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

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- **6.2 Environmental precautions**

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Do not allow to enter sewers/ surface or ground water.
Inform respective authorities in case of seepage into water course or sewage system.

- **6.3 Methods and material for containment and cleaning up**

Ensure adequate ventilation.
Send for recovery or disposal in suitable receptacles.

- **6.4 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.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**

Prevent formation of aerosols.
Use only in well ventilated areas.
Avoid splashes or spray in enclosed areas.
· **Information about fire - and explosion protection:** Keep respiratory protective device available.

- **7.2 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.

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

Store away from foodstuffs.
Store away from oxidisers, 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 container tightly sealed.
Store in dry conditions.

- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **8.1 Control parameters**

- **Ingredients 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.

- **DNELs:** No further relevant information available.
- **PNECs:** No further relevant information available.

- **8.2 Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

The usual precautionary measures are to be adhered to when handling chemicals.

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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.

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• **Respiratory protection:**

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.

• **Limitation and supervision of exposure into the environment:**

No further relevant information available.

SECTION 9: Physical and chemical properties

• **9.1 Information on basic physical and chemical properties**

• **Appearance**

Form:	Liquid
Colour:	Yellow
Odour:	Characteristic
Odour threshold:	Not determined.

pH-value:	Not determined.
Melting point/Melting range:	4 °C
Boiling point/Boiling range:	≥ 181 °C

Flash point:	>110 °C (Open Cup)
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Flammability (solid, gaseous):	Not applicable.
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Auto/Self-ignition temperature:	260 °C
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Decomposition temperature:	Not determined.
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Danger of explosion:	Product does not present an explosion hazard.
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• **Explosion limits**

Lower:	Not determined.
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Upper:	Not determined.
· Oxidising properties	Not determined.
· Vapour pressure:	≤2,00 hPa (≤1,5 mm Hg)
· Density at 20 °C:	3,7 g/cm ³
· Relative density:	Not determined.
· Vapour 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:	Not determined.
· 9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability** Stable under normal temperatures and pressures.
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
- **10.3 Possibility of hazardous reactions**
Toxic fumes may be released if heated above the decomposition point.
Reacts with strong acids and alkali.
Reacts with amines.
Reacts with certain metals.
Reacts with strong oxidising agents.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials** No further relevant information available.
- **10.6 Hazardous decomposition products**
Carbon monoxide and carbon dioxide
Iodine compounds

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity:**
Harmful if swallowed.

· **LD/LC50 values relevant for classification:**

ATE (Acute Toxicity Estimates)

Oral	LD50	1002 mg/kg (rat)
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75-11-6 diiodomethane

Oral	LD50	501-2000 mg/kg (rat)
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- **Primary irritant effect**
- **Skin corrosion/irritation:**
Causes skin irritation.
- **Serious eye damage/irritation:**
Causes serious eye damage.
- **Respiratory or skin sensitisation:** Based on available data, the classification criteria are not met.

· IARC (International Agency for Research on Cancer):

None of the ingredients are listed.

· Probable routes of exposure:

Ingestion.
Inhalation
Eye contact.
Skin contact.

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

Harmful if swallowed.
Causes serious eye damage.
May cause respiratory irritation.

· Repeated dose toxicity: No further relevant information available.

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

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

SECTION 12: Ecological information

· 12.1 Toxicity

· Aquatic toxicity: No further relevant information available.

· 12.2 Persistence and degradability No further relevant information available.

· 12.3 Bioaccumulative potential No further relevant information available.

· 12.4 Mobility in soil No further 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.

Danger to drinking water if even small quantities leak into the ground.

Harmful to aquatic organisms

· 12.5 Results of PBT and vPvB assessment

· PBT: Not applicable.

· vPvB: Not applicable.

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· **12.6 Other adverse effects** No further relevant information available.

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SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**

· **Recommendation**

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

· **Uncleaned packaging:**

· **Recommendation:** Disposal must be made according to official regulations.

SECTION 14: Transport information

· **14.1 UN-Number**

· **DOT**

Exempt

· **ADR, IMDG, IATA**

UN3082

· **14.2 UN proper shipping name**

· **DOT**

Exempt

· **ADR, IATA**

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (TERPHENYL)

· **IMDG**

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (TERPHENYL), MARINE POLLUTANT

· **14.3 Transport hazard class(es)**

· **DOT**

· **Class**

Exempt

· **ADR**



· **Class**

9 (M6) Miscellaneous dangerous substances and articles.

· **Label**

9

· **IMDG, IATA**



· **Class**

9 Miscellaneous dangerous substances and articles.

· **Label**

9

· **14.4 Packing group**

· **DOT**

Not Regulated

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· ADR, IMDG, IATA	III
· 14.5 Environmental hazards:	
· Marine pollutant:	Yes Symbol (fish and tree)
· 14.6 Special precautions for user	Warning: Miscellaneous dangerous substances and articles.
· Danger code (Kemler):	90
· EMS Number:	F-A,S-F
· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	Not regulated when carried in single or combination packaging containing a net quantity of 5 L or less for liquids or 5 kg or less for solids per the following: DOT: 171.4(c)(2) ADR: SP 375 IMDG: 2.10.2.7 IATA: special provision A197
· ADR	
· Transport category	3
· Tunnel restriction code	E

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- Carcinogenic Categories

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

None of the ingredients are listed.

· **Directive 2012/18/EU**

- **Named dangerous substances - ANNEX I** None of the ingredients are listed.
- **Seveso category E1** Hazardous to the Aquatic Environment
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 100 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t
- **National regulations:**

· **Water hazard class:** Water hazard class 2 (Self-assessment): hazardous for water.

· **Other regulations, limitations and prohibitive regulations**

· **Substances of very high concern (SVHC) according to REACH, Article 57**

None of the ingredients are listed.

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

SECTION 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.

- **Relevant phrases**

- H302 Harmful if swallowed.
- H315 Causes skin irritation.
- H318 Causes serious eye damage.
- H335 May cause respiratory irritation.
- H410 Very toxic to aquatic life with long lasting effects.
- H413 May cause long lasting harmful effects to aquatic life.

- **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
- GHS: Globally Harmonised System of Classification and Labelling of Chemicals
- EINECS: European Inventory of Existing Commercial Chemical Substances
- ELINCS: European List of Notified Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- DNEL: Derived No-Effect Level (REACH)
- PNEC: Predicted No-Effect Concentration (REACH)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- PBT: Persistent, Bioaccumulative and Toxic
- SVHC: Substances of Very High Concern
- vPvB: very Persistent and very Bioaccumulative
- LDLo: Lowest Lethal Dose Observed
- Acute Tox. 4: Acute toxicity – Category 4
- 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
- Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1
- Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2
- Aquatic Chronic 4: Hazardous to the aquatic environment - long-term aquatic hazard – Category 4

- **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: 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.

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