



Safety Data Sheet

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

Printing date: July 14, 2017

Revision: July 14, 2017

1 Identification

· **Product identifier**

· **Trade name:** Cargille Heavy Liquids Organic Series D= 2.96-3.31

· **Product code:** 12440, 12450, 12460, 12470, 12480, 12490, 12491

· **Recommended use and restriction on use**

· **Recommended use:**

This SDS or an accurate copy is an integral part of using Heavy Liquids. Only use Heavy Liquids 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 a Density Liquid at normal room pressure 101.32 kPa (760 mm Hg), temperature 7°C to 40°C (46°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 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:** No relevant information available.

· **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 (North America)
+1 (813)248-0585 (International)

2 Hazard(s) identification

· **Classification of the substance or mixture**

Acute Tox. 4 H302 Harmful if swallowed.

Acute Tox. 2 H330 Fatal if inhaled.

Skin Irrit. 2 H315 Causes skin irritation.

Eye Dam. 1 H318 Causes serious eye damage.

STOT SE 3 H335 May cause respiratory irritation.

· **Label elements**

· **GHS label elements**

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

· **Hazard pictograms:**



GHS05 GHS06 GHS07

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- **Signal word:** Danger (Cont'd. of page 1)
- **Hazard statements:**
 H302 Harmful if swallowed.
 H330 Fatal if inhaled.
 H315 Causes skin irritation.
 H318 Causes serious eye damage.
 H335 May cause respiratory irritation.
- **Precautionary statements:**
 P260 Do not breathe mist/vapors/spray.
 P264 Wash thoroughly after handling.
 P270 Do not eat, drink or smoke when using this product.
 P271 Use only outdoors or in a well-ventilated area.
 P280 Wear protective gloves / eye protection / face protection.
 P284 In case of inadequate ventilation wear respiratory protection.
 P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
 P302+P352 IF ON SKIN: Wash with plenty of water.
 P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 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.
 P330 Rinse mouth.
 P332+P313 If skin irritation occurs: Get medical advice/attention.
 P362+P364 Take off contaminated clothing and wash it before reuse.
 P403+P233 Store in a well-ventilated place. Keep container tightly closed.
 P405 Store locked up.
 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.

3 Composition/information on ingredients

- **Chemical characterization: Mixtures**

· **Components:**

	Trade Secret	40-60%
	 Eye Dam. 1, H318  Acute Tox. 4, H302; Skin Irrit. 2, H315; STOT SE 3, H335	
79-27-6	1,1,2,2-tetrabromoethane	40-60%
	 Acute Tox. 2, H330  Acute Tox. 4, H302; Eye Irrit. 2A, H319	

· **Additional information:**

For the wording of the listed Hazard Statements refer to section 16.

For the listed ingredient(s), the identity and/or exact percentage(s) are being withheld as a trade secret.

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4 First-aid measures

- **Description of first aid measures**
- **General information:**
Immediately remove any clothing soiled by the product.
Remove breathing apparatus only after contaminated clothing have been completely removed.
- **After inhalation:**
Supply fresh air or oxygen; call for doctor.
Provide oxygen treatment if affected person has difficulty breathing.
In case of irregular breathing or respiratory arrest provide artificial respiration.
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:**
Immediately wash with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.
- **After eye contact:**
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:**
Breathing difficulty
Coughing
Irritant to skin and mucous membranes.
Strong irritant with the danger of severe eye injury.
May cause respiratory irritation.
Disorientation
- **Danger:**
Fatal if inhaled.
Danger of impaired breathing.
Causes serious eye damage.
Harmful if swallowed.
- **Indication of any immediate medical attention and special treatment needed:**
May produce a hepatotoxic effect.
Medical supervision for at least 48 hours.
If necessary oxygen respiration treatment.
Later observation for pneumonia and pulmonary edema.
If medical advice is needed, have product container or label at hand.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
The product is not flammable.
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.

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- **Advice for firefighters** (Cont'd. of page 3)
- **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**
Use respiratory protective device against the effects of fumes/dust/aerosol.
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation.
Isolate area and prevent access.
- **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).
Ensure adequate ventilation.
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:**
Avoid splashes or spray in enclosed areas.
Prevent formation of aerosols.
Use only in well ventilated 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:**
Provide ventilation for receptacles.
Store only in the original receptacle.
- **Information about storage in one common storage facility:**
Store away from foodstuffs.
Store away from oxidizers, strong acids, strong bases.
- **Further information about storage conditions:**
Keep containers tightly sealed.
Protect from heat and direct sunlight.
Storage Temperatures : 40 - 68 °F / 4 - 20 °C.

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

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8 Exposure controls/personal protection

· **Control parameters**

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

79-27-6 1,1,2,2-tetrabromoethane

PEL (USA)	Long-term value: 14 mg/m ³ , 1 ppm
TLV (USA)	Long-term value: 1.4* mg/m ³ , 0.1* ppm *as inhalable fraction and vapor
EL (Canada)	Long-term value: 0.1 ppm vapour and inhalable aerosol
EV (Canada)	Long-term value: 0.1 ppm inhalable, vapour and aerosol
LMPE (Mexico)	Long-term value: 0.1 ppm IFV

· **Exposure controls**

· **Engineering measures**

Use general dilution ventilation and/or local exhaust ventilation to maintain exposures below occupational exposure limits.

· **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.

Store protective clothing separately.

Do not inhale gases / fumes / aerosols.

· **Engineering controls:** Provide adequate ventilation.

· **Breathing equipment:**

Avoid inhalation of the chemical/ the product/ the preparation by organizational measures.

· **Protection of hands:**



Protective gloves

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

· **Eye protection:**



Safety glasses

· **Body protection:** Protective work clothing

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· **Limitation and supervision of exposure into the environment**

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No relevant information available.

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **Appearance:**

Form: Liquid
 Color: Colorless to pale yellow.

· **Odor:** Characteristic

· **Odor threshold:** Not determined.

· **pH-value:** Not determined.

· **Melting point/Melting range:** app. 2.8 °C (app. 37 °F)

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

· **Flash point:** >110 °C (>230 °F)

· **Flammability (solid, gaseous):** Not applicable.

· **Auto-ignition temperature:** Not determined.

· **Decomposition temperature:** Not determined.

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

· **Explosion limits**

Lower: Not determined.

Upper: Not determined.

· **Oxidizing properties:** Non-oxidizing.

· **Vapor pressure at 23 °C (73 °F):** app. 200 Pa (app. 1,5 mm Hg)

· **Density:**

Relative density: 2.96-3.31

Vapor density at 23 °C (73 °F): app. 11 (Air = 1)

Evaporation rate: Not determined.

· **Solubility in / Miscibility with**

Water: Slightly soluble.

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

· **Viscosity**

Dynamic: Not determined.

Kinematic: Not determined.

· **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. (Cont'd. of page 6)
- **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 strong oxidizing agents.
Reacts with certain metals.
Reacts with strong alkali.
- **Conditions to avoid** No relevant information available.
- **Incompatible materials** No relevant information available.
- **Hazardous decomposition products**
Chlorine compounds
Iodine compounds
Carbon monoxide and carbon dioxide

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

Trade Secret

Oral	LD50	501-2000 mg/kg (rat)
------	------	----------------------

79-27-6 1,1,2,2-tetrabromoethane

Oral	LD50	400 mg/kg (guinea pig)
		1200 mg/kg (rat)
		400 mg/kg (rabbit)

Dermal	LD50	5250 mg/kg (rat)
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Inhalative	LC50/4h	550 mg/m ³ (rat) (4 Hours)
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- **Primary irritant effect:**
- **On the skin:** Irritant to skin and mucous membranes.
- **On the eye:**
Strong caustic effect.
Strong irritant with the danger of severe eye injury.

- **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.

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

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12 Ecological information

- **Toxicity**
- **Aquatic toxicity** Toxic for aquatic organisms
- **Persistence and degradability** No relevant information available.
- **Bioaccumulative potential:** No relevant information available.
- **Mobility in soil:** No relevant information available.
- **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.
Due to available data on eliminability/decomposition and bioaccumulation potential prolonged term damage of the environment can not be excluded.
- **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:**
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.
- **Uncleaned packagings**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- | | |
|----------------------------------|------------------|
| · UN-Number | |
| · DOT, ADR, IMDG, IATA | UN2504 |
| · UN proper shipping name | |
| · DOT, ADR, IMDG, IATA | TETRABROMOETHANE |
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- **Transport hazard class(es)**

- **DOT**



- **Class** 6.1 Toxic substances
- **Label** 6.1

- **ADR**



- **Class** 6.1 (T1) Toxic substances
- **Label** 6.1

- **IMDG, IATA**



- **Class** 6.1 Toxic substances
- **Label** 6.1

- **Packing group** III
- **DOT, ADR, IMDG, IATA**

- **Environmental hazards**

- **Marine pollutant:**



Yes (P)

- **Special precautions for user** Warning: Toxic substances
- **Danger code (Kemler):** 60
- **EMS Number:** 6.1-02
- **Segregation groups** Liquid halogenated hydrocarbons

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

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· **Transport/Additional information:**

· **DOT**



Limited Quantity for packages less than 30 kg gross and inner packagings less than 5 L each. Labeling as a Marine Pollutant is only required for bulk single package shipments. Bulk packaging consists of a maximum capacity of greater than 450 L (119 gallons) for a liquid and a maximum net mass greater than 400 kg (882 pounds) for a solid. (See 171.4(c))

· **ADR**



Limited Quantity for packages less than 30 kg gross and inner packagings less than 5 L each. Marine pollutants packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids or having a net mass per single or inner packaging of 5 kg or less for solids are not subject to provisions relevant to marine pollutants. (See 5.2.8.1)

· **IMDG**



Limited Quantity for packages less than 30 kg gross and inner packagings less than 5 L each. Marine pollutants packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids or having a net mass per single or inner packaging of 5 kg or less for solids are not subject to provisions relevant to marine pollutants. (See 2.10.2.7)

· **IATA**



Limited Quantity for packages less than 30 kg gross and inner packagings less than 0.5 L each / 2 L net.

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.

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

None of the ingredients are listed.

· **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.

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** July 14, 2017 / -

· **Abbreviations and acronyms:**

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

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

DNEL: Derived No-Effect Level (REACH)

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PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bio-accumulable, Toxique

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 4: Acute toxicity – Category 4

Acute Tox. 2: Acute toxicity – Category 2

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

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SourcesWebsite, 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.

Safety Data Sheets, Individual Manufacturers

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