1 Identification

· Product identifier
  · Trade name: Cargille Immersion Liquid Code 81520 BK-7 Matching Liquid nD= 1.5167
  · Product code: 19586

· Recommended use and restriction on use

  Recommended use:
  This SDS or an accurate copy is an integral part of using Immersion Liquid Code 81520. Only use Immersion Liquid Code 81520 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).
  For Professional and R&D use only. Conditions of Intended Use: (ABBR. C.I.U.) As an Optical Immersion Liquid at normal room pressure 101.32 kPa (760 mm Hg), temperature 7°C to 40°C (45°F to 104°F) in a non-misted / non airborne state in a room having 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), and gallon (3.84L) quantities. Used in single drop to a few cubic centimeters per application. See requisitioner for specific quantities involved.

· Restrictions on use: Contact manufacturer/supplier

· 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
  · Lact. H362 May cause harm to breast-fed children.

· Label elements
  · GHS label elements
    The substance is classified and labelled according to the Globally Harmonized System within the United States.

  · Hazard pictograms: None.

  · Signal word: None.

  · Hazard statements:
    H362 May cause harm to breast-fed children.

· Precautionary statements:
  · P201 Obtain special instructions before use.
  · P263 Avoid contact during pregnancy/while nursing.
  · P260 Do not breathe mist/vapors/spray.
  · P264 Wash thoroughly after handling.
  · P270 Do not eat, drink or smoke when using this product.

(Cont'd. on page 2)
Safety Data Sheet
acc. to OSHA HCS (29 CFR 1910.1200) and WHMIS 2015 regulations

Trade name: Cargille Immersion Liquid Code 81520 BK-7 Matching Liquid nD= 1.5167

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

3 Composition/information on ingredients

- Chemical characterization: Mixtures

- Components:

<table>
<thead>
<tr>
<th>Component</th>
<th>Lact., H362</th>
<th>≤10%</th>
</tr>
</thead>
<tbody>
<tr>
<td>68527-02-6 alkenes, C12-24, chloro</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- 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.

4 First-aid measures

- Description of first aid measures
  - After inhalation: Supply fresh air; consult doctor in case of complaints.
  - After skin contact:
    - Immediately wash with water and soap and rinse thoroughly.
    - If skin irritation continues, consult a doctor.
    - If acne occurs, immediately seek medical assistance.
  - After eye contact:
    - Remove contact lenses if worn.
    - Rinse opened eye for several minutes under running water. If symptoms persist, 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:
    - Gastric or intestinal disorders when ingested.
    - Acne
  - Danger:
    - Repeated exposure may cause skin dryness or cracking.
    - May cause harm to breast-fed children.
  - Indication of any immediate medical attention and special treatment needed:
    - If medical advice is needed, have product container or label at hand.

5 Fire-fighting measures

- Extinguishing media
  - Suitable extinguishing agents:
    - Foam
    - Fire-extinguishing powder
    - Gaseous extinguishing agents
    - Carbon dioxide
    - Water fog / haze

(Cont'd. on page 3)
Safety Data Sheet
acc. to OSHA HCS (29 CFR 1910.1200) and WHMIS 2015 regulations

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Revision: 11/10/2016

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For safety reasons unsuitable extinguishing agents:
Water stream.
Water spray
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.

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.
Inform respective authorities in case of seepage into water course or sewage system.
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: Avoid splashes or spray in enclosed areas.
Information about protection against explosions and fires: No special measures required.

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.
Store in a well-ventilated place. Keep cool.
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:
Storage Temperatures : 65 - 90 °F / 18 - 32 °C.
Keep containers tightly sealed.
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.
    Do not inhale gases / fumes / aerosols.
    Avoid contact with the eyes.
    Avoid close or long term contact with the skin.
    Pregnant women should strictly avoid inhalation or ingestion.
  - Engineering controls: No relevant information available.
  - Breathing equipment:
    Not required under normal conditions of use.
    Use suitable respiratory protective device when aerosol or mist is formed.
  - Protection of hands:
    The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
    - Material of gloves
      Fluorocarbon rubber (Viton)
      PVA gloves
      Nitrile rubber, NBR
    - Eye protection:
      Follow relevant national guidelines concerning the use of protective eyewear.
    - Body protection: Protective work clothing
    - Limitation and supervision of exposure into the environment
      No relevant information available.

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Safety Data Sheet
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Revision: 11/10/2016

Trade name: Cargille Immersion Liquid Code 81520 BK-7 Matching Liquid nD= 1.5167

9 Physical and chemical properties

- Information on basic physical and chemical properties
  - Appearance:
    - Form: Liquid
    - Color: Clear to straw color.
    - Odor: Slight
    - Odor threshold: Characteristic
  - pH-value: Not applicable.
  - Melting point/Melting range: Not determined.
  - Boiling point/Boiling range: Decomposes.
  - Pour point: -10 °C (14 °F)
  - Flash point: 160 °C (320 °F) (Open cup)
  - Flammability (solid, gaseous): Not applicable.
  - Auto-ignition temperature: Not determined.
  - Decomposition temperature: Not determined.
  - Danger of explosion: Not determined.
  - Explosion limits
    - Lower: Not determined.
    - Upper: Not determined.
  - Oxidizing properties: Not determined.
  - Vapor pressure: nil
  - Density:
    - Relative density: 1.3 (Water=1)
    - Vapor density: >1 (Air=1)
    - Evaporation rate: ∼1 (Mineral oil=1)
  - Solubility in / Miscibility with
    - Water: Not miscible or difficult to mix.
  - Partition coefficient (n-octanol/water): Not determined.
  - Viscosity
    - Dynamic at 25 °C (77 °F): 1450 cSt
    - Kinematic: Not determined.
  - Other information: No relevant information available.

10 Stability and reactivity

- Reactivity: No relevant information available.
- Chemical stability: Stable under normal temperatures and pressures.
- Thermal decomposition / conditions to be avoided:
  No decomposition if used and stored according to specifications.
Safety Data Sheet
acc. to OSHA HCS (29 CFR 1910.1200) and WHMIS 2015 regulations

Trade name: Cargille Immersion Liquid Code 81520 BK-7 Matching Liquid nD= 1.5167

- Possibility of hazardous reactions
  (Cont’d. of page 5)
  Toxic fumes may be released if heated above the decomposition point.
  Reacts with strong oxidizing agents.
  Reacts with strong acids and alkali.
  Reacts with certain metals.
  Conditions to avoid
  Excessive heat.
  Incompatible materials
  Oxidizers, strong bases, strong acids
  Hazardous decomposition products
  Under fire conditions only:
  Carbon monoxide and carbon dioxide
  Chlorine compounds
  Phosgene
  Halogenated hydrocarbons

11 Toxicological information

- Information on toxicological effects
  - Acute toxicity:
  - LD/LC50 values that are relevant for classification: None.
  - Primary irritant effect:
    - On the skin: Based on available data, the classification criteria are not met.
    - On the eye: Based on available data, the classification criteria are not met.
    - 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): None.

- Repeated dose toxicity: May cause harm to breast-fed children.

- CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)
  Lact.
  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: May cause harm to breast-fed children.

- STOT-single exposure: Based on available data, the classification criteria are not met.
- STOT-repeated exposure: Based on available data, the classification criteria are not met.

(Cont’d. on page 7)


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- Aspiration hazard: Based on available data, the classification criteria are not met. (Cont’d. of page 6)

12 Ecological information

- Toxicity
  - Aquatic toxicity Harmful to aquatic life.
  - Persistence and degradability Not easily biodegradable
- Bioaccumulative potential:
  Due to the distribution coefficient n-octanol/water an accumulation in organisms is not expected.
- Mobility in soil: No relevant information available.
- Ecotoxicological effects:
  - Remark: Harmful to fish
- Additional ecological information
- General notes:
  Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- 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

<table>
<thead>
<tr>
<th>UN-Number</th>
<th>DOT</th>
<th>Exempt</th>
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<tbody>
<tr>
<td>ADR, IMDG, IATA</td>
<td>UN3082</td>
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</table>

<table>
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<th>UN proper shipping name</th>
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<tbody>
<tr>
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<td>ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (alkenes, C12-24, chloro)</td>
<td></td>
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</tbody>
</table>

(Cont’d. on page 8)
Trade name: Cargille Immersion Liquid Code 81520 BK-7 Matching Liquid nD= 1.5167

<table>
<thead>
<tr>
<th>IMDG</th>
<th>ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (alkenes, C12-24, chloro), MARINE POLLUTANT</th>
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<tbody>
<tr>
<td></td>
<td><strong>Transport hazard class(es)</strong></td>
</tr>
<tr>
<td></td>
<td>· DOT</td>
</tr>
<tr>
<td></td>
<td>· Class Exempt</td>
</tr>
<tr>
<td></td>
<td><strong>ADR</strong></td>
</tr>
<tr>
<td></td>
<td>· Class 9 (M6) Miscellaneous dangerous substances and articles</td>
</tr>
<tr>
<td></td>
<td>· Label 9</td>
</tr>
<tr>
<td></td>
<td><strong>IMDG, IATA</strong></td>
</tr>
<tr>
<td></td>
<td>· Class 9 Miscellaneous dangerous substances and articles</td>
</tr>
<tr>
<td></td>
<td>· Label 9</td>
</tr>
<tr>
<td></td>
<td><strong>Packing group</strong></td>
</tr>
<tr>
<td></td>
<td>· DOT Not regulated.</td>
</tr>
<tr>
<td></td>
<td>· ADR, IMDG, IATA III</td>
</tr>
<tr>
<td></td>
<td><strong>Environmental hazards</strong></td>
</tr>
<tr>
<td></td>
<td>· Marine pollutant: YES Symbol (fish and tree)</td>
</tr>
<tr>
<td></td>
<td><strong>Special precautions for user</strong></td>
</tr>
<tr>
<td></td>
<td>· Danger code (Kemler): 90</td>
</tr>
<tr>
<td></td>
<td>· EMS Number: F-A,S-F</td>
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<tr>
<td></td>
<td><strong>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</strong></td>
</tr>
<tr>
<td></td>
<td>Not applicable.</td>
</tr>
<tr>
<td></td>
<td><strong>Transport/Additional information:</strong></td>
</tr>
<tr>
<td></td>
<td>Not regulated when carried in single or combination packaging containing a net quantity of 5L or less for liquids or 5 kg or less for solids per the following: DOR: 171.4(c)(2) ADR: SP 375 IMDG: 2.10.2.7 IATA: special provision A197</td>
</tr>
</tbody>
</table>
## 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.

  - **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
Trade name: Cargille Immersion Liquid Code 81520 BK-7 Matching Liquid nD= 1.5167

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: 11/10/2016 / -

- 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
  - vPvB: very Persistent and very Bioaccumulative
  - NIOSH: National Institute for Occupational Safety
  - OSHA: Occupational Safety & Health
  - LDLo: Lowest Lethal Dose Observed
  - Lact.: Reproductive toxicity – effects on or via lactation

- Sources
  - Website, European Chemicals Agency (echa.europa.eu)
  - Website, US EPA Substance Registry Services (ofmpub.epa.gov/sor internet/registry/substreg/home/overview/home.do)
  - Website, Chemical Abstracts Registry, American Chemical Society (www.cas.org)
  - Safety Data Sheets, Individual Manufacturers
  - SDS Prepared by: ChemTel Inc.
  - 1305 North Florida Avenue
  - Tampa, Florida USA 33602-2902
  - Toll Free North America 1-888-255-3924 Intl. +01 813-248-0573
  - Website: www.chemtelinc.com

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