# 1. Identification

**Product Name**
DL-Isoborneol

**Cat No. :**
AC122490000; AC122490250; AC122495000

**Synonyms**
Bicyclo(2.2.1)Hepta-2-ol,1,7,7-Trimethyl-,Exo.; Isobornyl alcohol; Isocamphol

**Recommended Use**
Laboratory chemicals.

**Uses advised against**
No Information available

## Details of the supplier of the safety data sheet

<table>
<thead>
<tr>
<th>Company</th>
<th>Entity / Business Name</th>
<th>Emergency Telephone Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fisher Scientific</td>
<td>Acros Organics</td>
<td>For information <strong>US</strong> call: 001-800-ACROS-01 / <strong>Europe</strong> call: +32 14 57 52 11</td>
</tr>
<tr>
<td>One Reagent Lane</td>
<td>One Reagent Lane</td>
<td>Emergency Number <strong>US</strong>:001-201-796-7100 / <strong>Europe</strong>:+32 14 57 52 99</td>
</tr>
<tr>
<td>Tel: (201) 796-7100</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

# 2. Hazard(s) identification

## Classification

<table>
<thead>
<tr>
<th>Hazard Class</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammable solids</td>
<td>Category 2</td>
</tr>
<tr>
<td>Skin Corrosion/irritation</td>
<td>Category 2</td>
</tr>
<tr>
<td>Serious Eye Damage/Eye Irritation</td>
<td>Category 2</td>
</tr>
</tbody>
</table>

## Label Elements

<table>
<thead>
<tr>
<th>Signal Word</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Warning</td>
<td></td>
</tr>
</tbody>
</table>

## Hazard Statements
- Flammable solid
- Causes skin irritation
- Causes eye irritation

## Precautionary Statements
Prevention
Wear protective gloves/protective clothing/eye protection/face protection
Use explosion-proof electrical/ventilating/lighting/equipment
Ground/bond container and receiving equipment
Keep away from heat/sparks/open flames/hot surfaces. - No smoking
Wash face, hands and any exposed skin thoroughly after handling

Skin
IF ON SKIN: Wash with plenty of soap and water
Take off contaminated clothing and wash before reuse
If skin irritation occurs: Get medical advice/attention

Eyes
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention

Fire
Fight fire with normal precautions from a reasonable distance

Storage
Store locked up

Hazards not otherwise classified (HNOC)
None identified
Other hazards
May cause respiratory irritation.

3. Composition / information on ingredients

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
</table>
| Bicyclo[2.2.1]heptan-2-ol, 1,7,7-trimethyl-, exo- | 124-76-5 | 93%

4. First-aid measures

General Advice
If symptoms persist, call a physician.

Eye Contact
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.

Skin Contact
Wash off immediately with plenty of water for at least 15 minutes. Obtain medical attention.

Inhalation
Move to fresh air. If breathing is difficult, give oxygen. Obtain medical attention.

Ingestion
Do not induce vomiting. Obtain medical attention.

Most important symptoms/effects
No information available.

Notes to Physician
Treat symptomatically

5. Fire-fighting measures

Suitable Extinguishing Media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Cool closed containers exposed to fire with water spray.

Unsuitable Extinguishing Media
Do not use a solid water stream as it may scatter and spread fire

Flash Point
74 °C / 165.2 °F

Method -
No information available

Autoignition Temperature
Not applicable

Explosion Limits
Upper
No data available
Lower
No data available

Sensitivity to Mechanical Impact
No information available
Sensitivity to Static Discharge  No information available

Specific Hazards Arising from the Chemical
Flammable. Containers may explode when heated. Combustible material.

Hazardous Combustion Products
Carbon monoxide (CO) Carbon dioxide (CO₂)

Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Protective Equipment and Precautions for Firefighters

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>N/A</td>
</tr>
</tbody>
</table>

6. Accidental release measures

Personal Precautions
Ensure adequate ventilation. Use personal protective equipment. Avoid dust formation. Remove all sources of ignition. Take precautionary measures against static discharges.

Environmental Precautions
Should not be released into the environment. See Section 12 for additional ecological information.

Methods for Containment and Clean Up
Sweep up or vacuum up spillage and collect in suitable container for disposal. Keep in suitable, closed containers for disposal. Remove all sources of ignition.

7. Handling and storage

Handling
Wear personal protective equipment. Ensure adequate ventilation. Avoid ingestion and inhalation. Avoid dust formation. Do not get in eyes, on skin, or on clothing. Keep away from open flames, hot surfaces and sources of ignition.

Storage
Keep away from heat and sources of ignition. Keep containers tightly closed in a dry, cool and well-ventilated place.

8. Exposure controls / personal protection

Exposure Guidelines
This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Engineering Measures
Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protective Equipment

Eye/face Protection
Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA’s eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection
Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection
Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Hygiene Measures
Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Physical State</th>
<th>Powder Solid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Off-white</td>
</tr>
</tbody>
</table>

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Odor: Strong
Odor Threshold: No information available
pH: No information available
Melting Point/Range: 208  -  214 °C  /  406.4  -  417.2 °F
Boiling Point/Range: No information available
Flash Point: 74 °C  /  165.2 °F
Evaporation Rate: Not applicable
Flammability (solid,gas): No information available
Flammability or explosive limits
   Upper: No data available
   Lower: No data available
Vapor Pressure: No information available
Vapor Density: Not applicable
Relative Density: No information available
Solubility: No information available
Partition coefficient; n-octanol/water: No data available
Autoignition Temperature: Not applicable
Decomposition Temperature: No information available
Viscosity: Not applicable
Molecular Formula: C10 H18 O
Molecular Weight: 154.25

10. Stability and reactivity

Reactive Hazard: None known, based on information available
Stability: Stable under normal conditions.
Incompatible Materials: Strong oxidizing agents
Hazardous Decomposition Products: Carbon monoxide (CO), Carbon dioxide (CO2)
Hazardous Polymerization: Hazardous polymerization does not occur.
Hazardous Reactions: None under normal processing.

11. Toxicological information

Acute Toxicity

Product Information: No acute toxicity information is available for this product
Component Information:

<table>
<thead>
<tr>
<th>Component</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bicyclo[2.2.1]heptan-2-ol, 1,7,7-trimethyl-, exo-</td>
<td>5200 mg/kg ( Rat )</td>
<td>&gt;5 g/kg ( Rabbit )</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

Toxicologically Synergistic Products: No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure:

Irritation: Irritating to eyes and skin
Sensitization: No information available
Carcinogenicity: The table below indicates whether each agency has listed any ingredient as a carcinogen.

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>IARC</th>
<th>NTP</th>
<th>ACGIH</th>
<th>OSHA</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bicyclo[2.2.1]heptan-2-ol, 1,7,7-trimethyl-,</td>
<td>124-76-5</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>
12. Ecological information

Ecotoxicity
Do not empty into drains. Do not flush into surface water or sanitary sewer system.

Persistence and Degradability
Insoluble in water

Bioaccumulation/Accumulation
No information available.

Mobility
Is not likely mobile in the environment due its low water solubility.

13. Disposal considerations

Waste Disposal Methods
Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT
UN-No UN1325
Proper Shipping Name FLAMMABLE SOLID, ORGANIC, N.O.S.
Proper technical name (DL-Isoborneol)
Hazard Class 4.1
Packing Group III

TDG
UN-No UN1325
Proper Shipping Name FLAMMABLE SOLID, ORGANIC, N.O.S.
Hazard Class 4.1
Packing Group III

IATA
UN-No UN1325
Proper Shipping Name Flammable solid, organic, n.o.s
Hazard Class 4.1
Packing Group III

IMDG/IMO
UN-No UN1325
Proper Shipping Name Flammable solid, organic, n.o.s
Hazard Class 4.1
Packing Group III

15. Regulatory information
International Inventories

<table>
<thead>
<tr>
<th>Component</th>
<th>TSCA</th>
<th>DSL</th>
<th>NDSL</th>
<th>EINECS</th>
<th>ELINCS</th>
<th>NLP</th>
<th>PICCS</th>
<th>ENCS</th>
<th>AICS</th>
<th>IECSC</th>
<th>KECL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bicyclo[2.2.1]heptan-2-ol, 1,7,7-trimethyl-, exo-</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>204-712-4</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Legend:
X - Listed
E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.
F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.
N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.
P - Indicates a commenced PMN substance
R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.
S - Indicates a substance that is identified in a proposed or final Significant New Use Rule
T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.
XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B)).
Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.
Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

TSCA 12(b)  Not applicable
SARA 313  Not applicable
SARA 311/312 Hazardous Categorization

- Acute Health Hazard: Yes
- Chronic Health Hazard: No
- Fire Hazard: Yes
- Sudden Release of Pressure Hazard: No
- Reactive Hazard: No

Clean Water Act  Not applicable
Clean Air Act  Not applicable
OSHA Occupational Safety and Health Administration  Not applicable
CERCLA  Not applicable
California Proposition 65  This product does not contain any Proposition 65 chemicals
State Right-to-Know  Not applicable

U.S. Department of Transportation

Reportable Quantity (RQ): N
DOT Marine Pollutant  N
DOT Severe Marine Pollutant  N

U.S. Department of Homeland Security
This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade  Moderate risk, Grade 2
Canada
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR

WHMIS Hazard Class

- B4 Flammable solid
- D2B Toxic materials

16. Other information

Prepared By
Regulatory Affairs
Thermo Fisher Scientific
Email: EMSDS.RA@thermofisher.com

Creation Date 22-Sep-2009
Revision Date 10-Feb-2015
Print Date 10-Feb-2015
Revision Summary This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

Disclaimer
The information provided on 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 guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text.

End of SDS