1. Identification

Product Name 2-Methyl-2,4-pentanediol
Cat No. AC150340000; AC150340010; AC150340025; AC150340250
CAS-No 107-41-5
Synonyms Hexylene glycol
Recommended Use Laboratory chemicals.
Uses advised against Food, drug, pesticide or biocidal product use.

Details of the supplier of the safety data sheet

Company Importer/Distributor Fisher Scientific
112 Colonnade Road,
Ottawa, ON K2E 7L6,
Canada
Tel: 1-800-234-7437

Acros Organics
One Reagent Lane
Fair Lawn, NJ 07410

Manufacturer Fisher Scientific Company
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Emergency Telephone Number
For information US call: 001-800-ACROS-01 / Europe call: +32 14 57 52 11
Emergency Number US:001-201-796-7100 / Europe: +32 14 57 52 99
CHEMTREC Tel. No.US:001-800-424-9300 / Europe:001-703-527-3887

2. Hazard(s) identification

Classification

WHMIS 2015 Classification Classified as hazardous under the Hazardous Products Regulations (SOR/2015-17)

<table>
<thead>
<tr>
<th>Hazard Class</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammable liquids</td>
<td>Category 4</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>
<tr>
<td>Specific target organ toxicity (single exposure)</td>
<td>Category 3</td>
</tr>
<tr>
<td>Target Organs - Respiratory system.</td>
<td></td>
</tr>
</tbody>
</table>

Label Elements

Signal Word Warning

Hazard Statements Combustible liquid
Causes skin irritation
Causes serious eye irritation
May cause respiratory irritation
May cause drowsiness and dizziness

Precautionary Statements
Prevention
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
Keep container tightly closed
Ground/bond container and receiving equipment
Take precautionary measures against static discharges
Do not breathe dust/fumes/gas/mist/vapours/spray
Wash face, hands and any exposed skin thoroughly after handling
Use only outdoors or in a well-ventilated area
Wear protective gloves/protective clothing/eye protection/face protection
Wear respiratory protection
Response
IF ON SKIN: Wash with plenty of soap and water
IF INHALED: Remove person to fresh air and keep comfortable for breathing
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
Immediately call a POISON CENTER/doctor
Take off contaminated clothing
Fight fire with normal precautions from a reasonable distance
IF SWALLOWED: Immediately call a POISON CENTER/doctor
Storage
Store in a well-ventilated place. Keep cool
Store in a closed container
Disposal
Dispose of contents/container to an approved waste disposal plant

Other Hazards
Hygroscopic

### 3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,4-Pentanediol, 2-methyl-</td>
<td>107-41-5</td>
<td>99</td>
</tr>
</tbody>
</table>

### 4. First-aid measures

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

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

**Inhalation**
Remove to fresh air. Get medical attention. If not breathing, give artificial respiration.

**Ingestion**
Do NOT induce vomiting. Get medical attention.

**Most important symptoms/effects**
Difficulty in breathing. Symptoms of overexposure may be headache, dizziness, tiredness,
5. Fire-fighting measures

Suitable Extinguishing Media
Water spray. Carbon dioxide (CO\textsubscript{2}). Dry chemical. Chemical foam. Water mist may be used to cool closed containers.

Notes to Physician
nausea and vomiting
Treat symptomatically

Unsuitable Extinguishing Media
No information available

Flash Point
93 °C / 199.4 °F
Method -
No information available

Autoignition Temperature
306 °C / 582.8 °F

Explosion Limits
Upper 9.0%
Lower 1.30%

Sensitivity to Mechanical Impact
No information available

Sensitivity to Static Discharge
No information available

Specific Hazards Arising from the Chemical
Combustible material. Vapors may travel to source of ignition and flash back. Containers may explode when heated. Thermal decomposition can lead to release of irritating gases and vapors.

Hazardous Combustion Products
Carbon monoxide (CO). Carbon dioxide (CO\textsubscript{2}).

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.

6. Accidental release measures

Personal Precautions
Ensure adequate ventilation. Use personal protective equipment as required. Remove all sources of ignition. Take precautionary measures against static discharges. Avoid contact with skin, eyes or clothing.

Environmental Precautions
See Section 12 for additional Ecological Information.

Methods for Containment and Clean Up
Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal. Remove all sources of ignition.

7. Handling and storage

Handling
Ensure adequate ventilation. Wear personal protective equipment/face protection. Keep away from open flames, hot surfaces and sources of ignition. Avoid contact with skin, eyes or clothing. Avoid ingestion and inhalation.

Storage
Protect from moisture. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks and flame.

8. Exposure controls / personal protection

Exposure Guidelines

<table>
<thead>
<tr>
<th>Component</th>
<th>Alberta</th>
<th>British</th>
<th>Ontario TWAEV</th>
<th>Quebec</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
</table>

2-Methyl-2,4-pentanediol

<table>
<thead>
<tr>
<th></th>
<th>Columbia</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,4-Pentanediol, 2-methyl-</td>
<td>Ceiling: 25 ppm Ceiling: 121 mg/m³</td>
</tr>
<tr>
<td></td>
<td>TWA: 25 ppm STEL: 50 ppm Ceiling: 121 mg/m³</td>
</tr>
<tr>
<td></td>
<td>TWA: 25 ppm STEL: 10 mg/m³ Ceiling: 121 mg/m³</td>
</tr>
<tr>
<td></td>
<td>TWA: 25 ppm STEL: 10 mg/m³ Ceiling: 121 mg/m³</td>
</tr>
<tr>
<td></td>
<td>(Vacated) Ceiling: 25 ppm Ceiling: 125 mg/m³</td>
</tr>
</tbody>
</table>

Legend
- ACGIH - American Conference of Governmental Industrial Hygienists
- OSHA - Occupational Safety and Health Administration
- NIOSH IDLH: NIOSH - National Institute for Occupational Safety and Health

Engineering Measures
Use explosion-proof electrical/ventilating/lighting/equipment. Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.
Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

Personal protective equipment

| Eye Protection          | Goggles                          |
| Hand Protection         | Protective gloves                |

Glove material   Breakthrough time   Glove thickness   Glove comments
Nitrile rubber   See manufacturers recommendations   -   Splash protection only
Neoprene         -   -   -
Natural rubber   -   -   -
PVC   See manufacturers recommendations

Inspect gloves before use. observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information) gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion. gloves with care avoiding skin contamination.

Respiratory Protection
When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. 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.

Environmental exposure controls
No information available.

Hygiene Measures
Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.

9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Viscous liquid Liquid</td>
</tr>
<tr>
<td>Appearance</td>
<td>Clear</td>
</tr>
<tr>
<td>Odor</td>
<td>Slight</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No information available</td>
</tr>
<tr>
<td>pH</td>
<td>6-8</td>
</tr>
<tr>
<td>Melting Point/Range</td>
<td>-40 °C / -40 °F</td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>197 °C / 386.6 °F @ 760 mmHg</td>
</tr>
<tr>
<td>Flash Point</td>
<td>93 °C / 199.4 °F</td>
</tr>
</tbody>
</table>
2-Methyl-2,4-pentanediol

Evaporation Rate  No information available
Flammability (solid,gas)  Not applicable
Flammability or explosive limits
   Upper  9.0%
   Lower  1.30%
Vapor Pressure  0.065 mbar @ 20 °C
Vapor Density  4.1
Specific Gravity  0.922
Solubility  No information available
Partition coefficient; n-octanol/water  No data available
Autoignition Temperature  306 °C / 582.8 °F
Decomposition Temperature  No information available
Viscosity  36 mPa . s at 20 °C
Molecular Formula  C6 H14 O2
Molecular Weight  118.18

10. Stability and reactivity

Reactive Hazard  None known, based on information available
Stability  Hygroscopic.
Conditions to Avoid  Incompatible products. Exposure to moist air or water. Keep away from open flames, hot surfaces and sources of ignition.
Incompatible Materials  Acids, Strong oxidizing agents, Strong acids, Strong reducing agents, Acid anhydrides, Acid chlorides
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 ( Rat )</th>
<th>LD50 Dermal ( Rabbit )</th>
<th>LC50 Inhalation ( Rat ) 1 h</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,4-Pentanediol, 2-methyl-</td>
<td>LD50 = 3700 mg/kg</td>
<td>LD50 = 12300 mg/kg</td>
<td>LC50 &gt; 310 mg/m³</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, respiratory system 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>2,4-Pentanediol, 2-methyl-</td>
<td>107-41-5</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

Mutagenic Effects  Not mutagenic in AMES Test
Reproductive Effects  No information available.
Developmental Effects  No information available.
2-Methyl-2,4-pentanediol

Revised Date: 23-July-2021

Teratogenicity
No information available.

STOT - single exposure
Respiratory system

STOT - repeated exposure
None known

Aspiration hazard
No information available

Symptoms / effects, both acute and delayed
Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting delayed.

Endocrine Disruptor Information
No information available

Other Adverse Effects
The toxicological properties have not been fully investigated.

12. Ecological information

Ecotoxicity
Do not empty into drains.

<table>
<thead>
<tr>
<th>Component</th>
<th>Freshwater Algae</th>
<th>Freshwater Fish</th>
<th>Microtox</th>
<th>Water Flea</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,4-Pentanediol, 2-methyl-</td>
<td>Not listed</td>
<td>LC50: = 8690 mg/L, 96h flow-through (Pimephales promelas)</td>
<td>EC50 = 3038 mg/L 5 min</td>
<td>EC50: 2700 - 3700 mg/L, 48h (Daphnia magna)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LC50: = 10700 mg/L, 96h static (Pimephales promelas)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>LC50: = 10000 mg/L, 96h static (Lepomis macrochirus)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>LC50: 10500 - 11000 mg/L, 96h flow-through (Pimephales promelas)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Persistence and Degradability
Persistence is unlikely

Bioaccumulation / Accumulation
No information available.

Mobility
Will likely be mobile in the environment due to its 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
COMBUSTIBLE LIQUID, NOT REGULATED FOR TRANSPORT IN THIS QUANTITY

According to 49 CRF §173.150(f)(1), this material should be reclassified as NA1993, Combustible Liquid, NOS if it is shipped in bulk.

UN-No
NA1993

Proper Shipping Name
Combustible liquid, n.o.s.

Packing Group
III

TDG
Not regulated

iATA
Not regulated

IMDG/IMO
Not regulated

15. Regulatory information
International Inventories

<table>
<thead>
<tr>
<th>Component</th>
<th>DSL</th>
<th>NDSL</th>
<th>TSCA</th>
<th>EINECS</th>
<th>ELINCS</th>
<th>PICCS</th>
<th>ENCS</th>
<th>ISHL</th>
<th>AICS</th>
<th>KECL</th>
<th>IECSC</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,4-Pentanediol, 2-methyl-</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td>203-489-0</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>KE-24702</td>
<td>X</td>
</tr>
</tbody>
</table>

Legend
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
ENCS - Japanese Existing and New Chemical Substances
AICS - Australian Inventory of Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
IECSC - Chinese Inventory of Existing Chemical Substances

Canada
SDS in compliance with provisions of information as set out in Canadian Standard - Part 4, Schedule 1 and 2 of the Hazardous Products Regulations (HPR) and meets the requirements of the HPR (Paragraph 13(1)(a) of the Hazardous Products Act (HPA)).

<table>
<thead>
<tr>
<th>Component</th>
<th>Canada - National Pollutant Release Inventory (NPRI)</th>
<th>Canadian Environmental Protection Agency (CEPA) - List of Toxic Substances</th>
<th>Canada's Chemicals Management Plan (CEPA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,4-Pentanediol, 2-methyl-</td>
<td>Part 4 Substance</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

16. Other information

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

Creation Date
22-September-2009

Revision Date
23-July-2021

Print Date
23-July-2021

Revision Summary
This document has been updated to comply with the requirements of WHMIS 2015 to align with the Globally Harmonised System (GHS) for the Classification and Labelling of Chemicals.

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

End of SDS