1-METHOXY-2-PROПANOL ACETATE
CAS NO 108-65-6

MATERIAL SAFETY DATA SHEET
SDS/MSDS

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers
   Product name : 1-Methoxy-2-Propanol Acetate
   CAS-No. : 108-65-6

1.2 Relevant identified uses of the substance or mixture and uses advised against
   Identified uses : Laboratory chemicals, Industrial & for professional use only.

1.3 Details of the supplier of the safety data sheet
   Company : Central Drug House (P) Ltd
             7/28 Vardaan House
             New Delhi -110002
             INDIA
   Telephone : +91 11 49404040
   Email : care@cdhfinechemical.com

1.4 Emergency telephone number
   Emergency Phone # : +91 11 49404040 (9:00am - 6:00 pm) [Office hours]

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
   Classification according to Regulation (EC) No 1272/2008
   Flammable liquids (Category 3), H226
   For the full text of the H-Statements mentioned in this Section, see Section 16.

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

   Signal word : Warning
   Hazard statement(s) : Flammable liquid and vapour.
   H226
   Precautionary statement(s) : Keep away from heat, hot surfaces, sparks, open flames and other
                               ignition sources. No smoking.
   P210
   P403 + P235 : Store in a well-ventilated place. Keep cool.
   Supplemental Hazard Statements : none
2.3 Other hazards - none

SECTION 3: Composition/information on ingredients

3.1 Substances
Synonyms: DOWANOL® PMA
MPA
1-Methoxy-2-propyl acetate
1,2-Propanediol monomethyl ether acetate
Propylene glycol methyl ether acetate
PGMEA

Formula: C₆H₁₂O₃
Molecular weight: 132.16 g/mol
CAS-No.: 108-65-6
EC-No.: 203-603-9
Index-No.: 607-195-00-7

Hazardous ingredients according to Regulation (EC) No 1272/2008

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Methoxypropanol</td>
<td>Flam. Liq. 3; Skin Irrit. 2; Eye</td>
<td>&lt; 0.3 %</td>
</tr>
<tr>
<td>CAS-No.</td>
<td>1589-47-5</td>
<td></td>
</tr>
<tr>
<td>EC-No.</td>
<td>216-455-5</td>
<td>Dam. 1; Repr. 1B; STOT SE 3;</td>
</tr>
<tr>
<td>Index-No.</td>
<td>603-106-00-0</td>
<td>H226, H315, H318, H360D, H335</td>
</tr>
</tbody>
</table>

| 2-Methoxy-1-methylethyl acetate*** | Flam. Liq. 3; H226 | <= 100 % |
| CAS-No. | 108-65-6 | |
| EC-No. | 203-603-9 | |
| Index-No. | 607-195-00-7 | |

* PBT substance, ** vPvB substance, *** WEL substance

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Consult a physician.

In case of eye contact
Flush eyes with water as a precaution.

If swallowed
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed
No data available
SECTION 5: Firefighting measures

5.1 Extinguishing media
   Suitable extinguishing media
   Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture
   Carbon oxides

5.3 Advice for firefighters
   Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information
   Use water spray to cool unopened containers.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
   Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation.
   Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to
   form explosive concentrations. Vapours can accumulate in low areas.
   For personal protection see section 8.

6.2 Environmental precautions
   Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up
   Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and
   place in container for disposal according to local regulations (see section 13).

6.4 Reference to other sections
   For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
   Avoid exposure - obtain special instructions before use. Avoid inhalation of vapour or mist.
   Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic
   charge.
   For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities
   Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are
   opened must be carefully resealed and kept upright to prevent leakage.
   Storage class (TRGS 510): Flammable liquids

7.3 Specific end use(s)
   Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

8.2 Exposure controls
   Appropriate engineering controls
   Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and
   at the end of workday.

   Personal protective equipment
     Eye/face protection
     Face shield and safety glasses Use equipment for eye protection tested and approved under
     appropriate government standards such as NIOSH (US) or EN 166(EU).
Skin protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection
Impervious clothing, Flame retardant antistatic protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use (US) or type ABEK (EN 14387) respirator cartridges as a backup to enginee protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance
   Form: clear, liquid
   Colour: colourless

b) Odour
   No data available

c) Odour Threshold
   No data available

d) pH
   No data available

e) Melting point/freezing point
   Melting point/range: < -65.99 °C at 1,013 hPa

f) Initial boiling point and boiling range
   145 - 146 °C - lit.

g) Flash point
   45.5 °C - closed cup

h) Evaporation rate
   No data available

i) Flammability (solid, gas)
   No data available

j) Upper/lower flammability or explosive limits
   Upper explosion limit: 13.1 %(V)
   Lower explosion limit: 1.3 %(V)

k) Vapour pressure
   3.59 hPa at 20 °C - OECD Test Guideline 104

l) Vapour density
   No data available

m) Relative density
   0.97 g/cm3 at 25 °C - lit.

n) Water solubility
   198 g/l at 20 °C

o) Partition coefficient: n-octanol/water
   log Pow: 1.2 at 20 °C - OECD Test Guideline 117

p) Auto-ignition temperature
   333 °C
   at 1,013 hPa

q) Decomposition temperature
   No data available

r) Viscosity
   1.13 mm2/s at 25 °C -

s) Explosive properties
   No data available

t) Oxidizing properties
   No data available

9.2 Other safety information
No data available
SECTION 10: Stability and reactivity

10.1 Reactivity
No data available

10.2 Chemical stability
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
No data available

10.4 Conditions to avoid
Heat, flames and sparks.

10.5 Incompatible materials
Strong oxidizing agents

10.6 Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Carbon oxides
Other decomposition products - No data available
In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity
LD50 Oral - Rat - female - 8,532 mg/kg(2-Methoxy-1-methylethyl acetate)
LD50 Dermal - Rat - male and female - > 2,000 mg/kg(2-Methoxy-1-methylethyl acetate)
(OECD Test Guideline 402)

Skin corrosion/irritation
Skin - Rabbit(2-Methoxy-1-methylethyl acetate)
Result: No skin irritation
(OECD Test Guideline 404)

Serious eye damage/eye irritation
Eyes - Rabbit(2-Methoxy-1-methylethyl acetate)
Result: No eye irritation

Respiratory or skin sensitisation
Maximisation Test - Guinea pig(2-Methoxy-1-methylethyl acetate)
Did not cause sensitisation on laboratory animals.
(OECD Test Guideline 406)

Germ cell mutagenicity
reverse mutation assay(2-Methoxy-1-methylethyl acetate)
S. typhimurium
Result: negative

Carcinogenicity
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity
No data available(2-Methoxy-1-methylethyl acetate)

Specific target organ toxicity - single exposure
No data available(2-Methoxy-1-methylethyl acetate)

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available(2-Methoxy-1-methylethyl acetate)
Additional Information

Repeated dose toxicity - Rat - male and female - Oral(2-Methoxy-1-methylethyl acetate)
RTECS: AI8925000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.(2-Methoxy-1-methylethyl acetate)

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish mortality LC50 - Salmo gairdneri - 100 - 180 mg/l - 96 h(2-Methoxy-1-methylethyl acetate)
(OECD Test Guideline 203)

Toxicity to daphnia and other aquatic invertebrates static test EC50 - Daphnia magna (Water flea) - > 500 mg/l - 48 h(2-Methoxy-1-methylethyl acetate)

12.2 Persistence and degradability

Biodegradability Biotic/Aerobic - Exposure time 28 d(2-Methoxy-1-methylethyl acetate)
Result: 83 % - Readily biodegradable
(OECD Test Guideline 301F)

Biochemical Oxygen Demand (BOD) 0.36 mg/l(2-Methoxy-1-methylethyl acetate)

Chemical Oxygen Demand (COD) 1.74 mg/g(2-Methoxy-1-methylethyl acetate)

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available(2-Methoxy-1-methylethyl acetate)

12.5 Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects
No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Product
Burn in a chemical incinerator equipped with an afterburner and scrubber b highly flammable.
Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging
Dispose of as unused product.

SECTION 14: Transport information

14.1 UN number
ADR/RID: 3271 IMDG: 3271 IATA: 3271

14.2 UN proper shipping name
ADR/RID: ETHERS, N.O.S. (2-Methoxy-1-methylethyl acetate)
IMDG: ETHERS, N.O.S. (2-Methoxy-1-methylethyl acetate)
IATA: Ethers, n.o.s. (2-Methoxy-1-methylethyl acetate)
14.3 Transport hazard class(es)
ADR/RID: 3  IMDG: 3  IATA: 3

14.4 Packaging group
ADR/RID: III  IMDG: III  IATA: III

14.5 Environmental hazards
ADR/RID: no  IMDG Marine pollutant: no  IATA: no

14.6 Special precautions for user
No data available

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.2 Chemical safety assessment
For this product a chemical safety assessment was not carried out

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.
H226  Flammable liquid and vapour.
H315  Causes skin irritation.
H318  Causes serious eye damage.
H335  May cause respiratory irritation.
H360D  May damage the unborn child.

Further information
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Central Drug House (P) Ltd and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.cdhfinechemical.com for additional terms and conditions of sale.