ISO VALERALDEHYDE
CAS NO 590-86-3

MATERIAL SAFETY DATA SHEET
SDS/MSDS

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

1.1 Product identifiers
Product name: Iso Valeraldehyde

CAS-No.: 590-86-3

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 2), H225
Eye irritation (Category 2), H319
Skin sensitisation (Category 1), H317
Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335
Chronic aquatic toxicity (Category 2), H411

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: Danger
H225: Highly flammable liquid and vapour.
H317: May cause an allergic skin reaction.
H319: Causes serious eye irritation.
H335 May cause respiratory irritation.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statement(s)
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261 Avoid breathing vapours.
P273 Avoid release to the environment.
P280 Wear protective gloves.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Supplemental Hazard Statements

2.3 Other hazards
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher. Stench.

SECTION 3: Composition/information on ingredients

3.1 Substances
Synonyms : 3-Methylbutyraldehyde

Formula : C₉H₁₉O
Molecular weight : 137.24 g/mol
CAS-No. : 590-86-3
EC-No. : 209-691-5

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

Component | Classification | Concentration
--- | --- | ---
Isovaleraldehyde | Flam. Liq. 2; Eye Irrit. 2; Skin Sens. 1; STOT SE 3; Aquatic Chronic 2; H225, H319, H317, H335, H411 | <= 100 %

CAS-No. 590-86-3
EC-No. 209-691-5

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
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

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. Discharge into the
environment must be avoided.

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 contact with skin and eyes. 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.
Recommended storage temperature 2 - 8 °C
Handle and store under inert gas. Air and light sensitive.
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
Complete suit protecting against chemicals, 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. Discharge into the environment must be avoided.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance Form: clear, liquid
   Colour: colourless

b) Odour unpleasant

c) Odour Threshold No data available

d) pH No data available

e) Melting point/freezing point Freezing point: < -89.99 °C

f) Initial boiling point and boiling range 90 °C - lit.

g) Flash point -4.99 °C - closed cup

h) Evaporation rate No data available

i) Flammability (solid, gas) No data available

j) Upper/lower flammability or explosive limits No data available

k) Vapour pressure 30 mmHg at 20 °C

l) Vapour density 2.97 - (Air = 1.0)

m) Relative density 0.803 g/cm3 at 25 °C

n) Water solubility 15 g/l at 20 °C - OECD Test Guideline 105 - soluble

o) Partition coefficient: n-octanol/water log Pow: 1.5 at 25 °C

p) Auto-ignition temperature 210 °C
   at 1,020 hPa

q) Decomposition temperature No data available
r) Viscosity 0.69 mm²/s at 20 °C - 
s) Explosive properties No data available 
t) Oxidizing properties No data available 

9.2 Other safety information
Relative vapour density 2.97 - (Air = 1.0)

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
Oxidizing agents, Strong bases, Strong reducing 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 - 5,600 mg/kg(Isovaleraldehyde)
LD50 Oral - Rat - 5,740 mg/kg(Isovaleraldehyde)
(OECD Test Guideline 401)
LC50 Inhalation - Rat - 4 h - 42,700 mg/m³(Isovaleraldehyde)
Remarks: Behavioral: Altered sleep time (including change in righting reflex). Gastrointestinal: Changes in structure or function of salivary glands.
LD50 Dermal - Rabbit - 2,534 mg/kg(Isovaleraldehyde)
Remarks: Liver: Other changes. Prolonged skin contact may cause skin irritation and/or dermatitis.

Skin corrosion/irritation
Skin - Rabbit(Isovaleraldehyde)
Result: Mild skin irritation - 24 h

Serious eye damage/eye irritation
Eyes - Rabbit(Isovaleraldehyde)
Result: Irritating to eyes. - 8 d

Respiratory or skin sensitisation
The preceding data, or interpretation of data, was determined using Quantitative Structure Activity Relationship (QSAR) modeling.(Isovaleraldehyde)

Germ cell mutagenicity
No data available(Isovaleraldehyde)

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(Isovaleraldehyde)

Specific target organ toxicity - single exposure
Inhalation - May cause respiratory irritation. - Respiratory system(Isovaleraldehyde)

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available(Isovaleraldehyde)

Additional Information
RTECS: ES3450000
Nausea, Headache, Vomiting, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.(Isovaleraldehyde)

SECTION 12: Ecological information

12.1 Toxicity
Toxicity to fish LC50 - Pimephales promelas (fathead minnow) - 3.25 mg/l - 96 h(Isovaleraldehyde)
Toxicity to daphnia and other aquatic invertebrates EC50 - Daphnia magna (Water flea) - 177 mg/l - 48 h(Isovaleraldehyde)
Toxicity to algae ErC50 - Desmodesmus subspicatus (Scenedesmus subspicatus) - 113 mg/l - 72 h(Isovaleraldehyde)

12.2 Persistence and degradability
Biodegradability Result: 50 % - Not readily biodegradable. (OECD Test Guideline 301D)

12.3 Bioaccumulative potential
Does not bioaccumulate.

12.4 Mobility in soil
No data available(Isovaleraldehyde)

12.5 Results of PBT and vPvB assessment
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects
Toxic to aquatic life with long lasting 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

14.2 UN proper shipping name
ADR/RID: ALDEHYDES, N.O.S. (Isovaleraldehyde)
IMDG: ALDEHYDES, N.O.S. (Isovaleraldehyde)
IATA: ALDEHYDES, N.O.S. (Isovaleraldehyde)

14.3 Transport hazard class(es)
ADR/RID: 3 IMDG: 3 IATA: 3

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

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.
H225 Highly flammable liquid and vapour.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H411 Toxic to aquatic life with long lasting effects.

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.