

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



Signal word : Danger

Hazard statement(s)
 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	none

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	:	C ₅ H ₁₀ O
Molecular weight	:	86.13 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			
CAS-No.	590-86-3	Flam. Liq. 2; Eye Irrit. 2; Skin Sens. 1; STOT SE 3; Aquatic Chronic 2; H225, H319, H317, H335, H411	<= 100 %
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/cm ³ 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)

Remarks: Behavioral:Somnolence (general depressed activity).

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

ADR/RID: 1989

IMDG: 1989

IATA: 1989

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.