

Material Safety Data Sheet
acc. to OSHA and ANSI

Printing date 11/10/2008

Reviewed on 11/10/2008

1 Identification of substance:

Product details:

Product name: Isovaleraldehyde
Stock number:
 A19640
 L07442
Manufacturer/Supplier:
 Alfa Aesar, A Johnson Matthey Company
 Johnson Matthey Catalog Company, Inc.
 30 Bond Street
 Ward Hill, MA 01835-8099
 Emergency Phone: (978) 521-6300
 CHEMTREC: (800) 424-9300
 Web Site: www.alfa.com

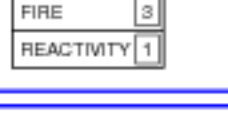
Information Department: Health, Safety and Environmental Department
Emergency information:
 During normal hours the Health, Safety and Environmental Department.
 After normal hours call Chemtrec at (800) 424-9300.

2 Composition/Data on components:

Chemical characterization:
Description: (CAS#)
 Isovaleraldehyde (CAS# 590-86-3); 100%
Identification number(s):
EINECS Number: 209-691-5

3 Hazards identification

Hazard description:



Xi Irritant
 F Highly flammable

Information pertaining to particular dangers for man and environment
 R 11 Highly flammable.
 R 36/37/38 Irritating to eyes, respiratory system and skin.

Classification system
HMS ratings (scale 0-4)
(Hazardous Materials Identification System)

HEALTH	1	Health (acute effects) = 1
FIRE	3	Flammability = 3
REACTIVITY	1	Reactivity = 1

4 First aid measures

After inhalation
 Supply fresh air and to be sure call for a doctor.
 Supply fresh air. If required, provide artificial respiration. Keep patient warm.
 Seek immediate medical advice.
After skin contact
 Immediately wash with water and soap and rinse thoroughly.

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Seek immediate medical advice.
After eye contact
 Rinse opened eye for several minutes under running water. Then consult a doctor.
After swallowing Seek immediate medical advice.

5 Fire fighting measures

Suitable extinguishing agents
 In case of fire, use sand, carbon dioxide or powdered extinguishing agent. Never use water.
For safety reasons unsuitable extinguishing agents Water
Special hazards caused by the material, its products of combustion or resulting gases:
 In case of fire, the following can be released:
 Carbon monoxide and carbon dioxide

Protective equipment:
 Wear self-contained respirator.
 Wear fully protective impervious suit.

6 Accidental release measures

Person-related safety precautions:
 Wear protective equipment. Keep unprotected persons away.
 Ensure adequate ventilation.
 Keep away from ignition sources
Measures for environmental protection:
 Do not allow material to be released to the environment without proper governmental permits.

Measures for cleaning/collecting:
 Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
 Ensure adequate ventilation.
 Do not flush with water or aqueous cleansing agents
 Keep away from ignition sources.

Additional information:
 See Section 7 for information on safe handling
 See Section 8 for information on personal protection equipment.
 See Section 13 for disposal information.

7 Handling and storage

Handling
Information for safe handling:
 Keep container tightly sealed.
 Store in cool, dry place in tightly closed containers.
 Ensure good ventilation at the workplace.
Information about protection against explosions and fires:
 Keep ignition sources away.
 Protect against electrostatic charges.
 Fumes can combine with air to form an explosive mixture.

Storage
Requirements to be met by storerooms and receptacles:
 Store in a cool location.

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Information about storage in one common storage facility:
 Do not store together with strongly basic or oxidizing materials.
 Store away from reducing agents.
 Store away from air.
 Store in the dark.

Further information about storage conditions:
 Keep container tightly sealed.
 Store in cool, dry conditions in well sealed containers.
 Avoid contact with air/oxygen.
 Protect from exposure to light.

8 Exposure controls and personal protection

Additional information about design of technical systems:
 Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.
Components with limit values that require monitoring at the workplace:
 Not required.
Additional information: No data

Personal protective equipment
General protective and hygienic measures
 The usual precautionary measures for handling chemicals should be followed.
 Keep away from foodstuffs, beverages and feed.
 Remove all soiled and contaminated clothing immediately.
 Wash hands before breaks and at the end of work.
 Avoid contact with the eyes and skin.

Breathing equipment:
 Use suitable respirator when high concentrations are present.
Protection of hands: Impervious gloves
Eye protection: Safety glasses
Body protection: Protective work clothing.

9 Physical and chemical properties:

General Information

Form:	Liquid
Color:	Colorless
Odor:	Fruit-like
Change in condition	
Melting point/Melting range:	-51°C (-60°F)
Boiling point/Boiling range:	89-91°C (192-196°F)
Sublimation temperature / start:	Not determined
Flash point:	-2°C (28°F)
Ignition temperature:	239°C (462°F)
Decomposition temperature:	Not determined
Explosion limits:	
Lower:	Not determined
Upper:	Not determined

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Vapor pressure at 20°C (68°F):	40 hPa (30 mm Hg)
Density at 20°C (68°F):	0.803 g/cm ³
Solubility in / Miscibility with	
Water:	Slightly soluble
Alcohols:	Soluble
Organic solvents:	Soluble in ether.

10 Stability and reactivity

Thermal decomposition / conditions to be avoided:
 Decomposition will not occur if used and stored according to specifications.
Materials to be avoided:
 Light
 Oxidizing agents
 Bases
 Reducing agents
 Air

Dangerous reactions No dangerous reactions known
Dangerous products of decomposition: Carbon monoxide and carbon dioxide
Additional information:
 Isovaleraldehyde is used in flavoring, perfumes, pharmaceuticals, and synthetic resins.

11 Toxicological information

Acute toxicity:

LD/LC50 values that are relevant for classification:			
Oral	LD50	2950 mg/kg (guinea pig) 4750 mg/kg (mouse) 5600 mg/kg (rat)	
	Dermal	LD50	>8 gm/kg (guinea pig) 3180 µL/kg (rabbit)
		LC50/4H	50770 mg/m ³ (mouse) 42700 mg/m ³ /4H (rat)
Irritation of skin	mild	500 mg/24H (rabbit)	
	moderate	100 mg/24H (rabbit)	

Primary irritant effect:
 on the skin: Irritant to skin and mucous membranes.
 on the eye: Irritating effect.

Sensitization: No sensitizing effects known.
Subacute to chronic toxicity:
Subacute to chronic toxicity:
 Isovaleraldehyde is a liquid with an apple-like odor and naturally occurs in the oils of orange, lemon, eucalyptus, and peppermint. It has low toxicity but causes respiratory and eye irritation, as well as dermatitis, somnolence, and liver impairment.

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Additional toxicological information:
 To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.
 No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

12 Ecological information:

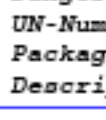
General notes:
 Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
 Do not allow material to be released to the environment without proper governmental permits.

13 Disposal considerations

Product:
Recommendation
 Consult state, local or national regulations to ensure proper disposal.
Uncleaned packagings:
Recommendation: Disposal must be made according to official regulations.

14 Transport information

DOT regulations:



Hazard class: 3
Identification number: UN2058
Packing group: II
Proper shipping name (technical name): VALERALDEHYDE
Label: 3

Land transport ADR/RID (cross-border)



ADR/RID class: 3 (F1) Flammable liquids
Danger code (Kemler): 33
UN Number: 2058
Packing group: II
Description of goods: 2058 VALERALDEHYDE

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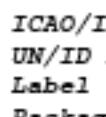
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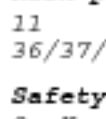
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Maritime transport IMDG:



IMDG Class: 3
UN Number: 2058
Label: 3
Packing group: II
Proper shipping name: VALERALDEHYDE

Air transport ICAO-TI and IATA-DGR:



ICAO/IATA Class: 3
UN/ID Number: 2058
Label: 3
Packing group: II
Proper shipping name: VALERALDEHYDE

15 Regulations

Product related hazard informations:

Hazard symbols:
 Xi Irritant
 F Highly flammable

Risk phrases:
 11 Highly flammable.
 36/37/38 Irritating to eyes, respiratory system and skin.

Safety phrases:
 9 Keep container in a well-ventilated place.
 16 Keep away from sources of ignition - No smoking.
 23 Do not breathe gas/fumes/vapour/spray.
 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
 33 Take precautionary measures against static discharges.
 37 Wear suitable gloves.

National regulations
 All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical Substance Inventory.
 All components of this product are listed on the Canadian Domestic Substances List (DSL).
Information about limitation of use:
 For use only by technically qualified individuals.

16 Other information:

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of

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suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.
Department issuing MSDS: Health, Safety and Environmental Department.
Contact: Paul V. Connolly