

Section 1 - Product and Company Information

Product Name: HEXANAL, 98%
 Product Number: 115606
 Brand: ALDRICH
 Company Address: Sigma-Aldrich Canada, Ltd
 2149 Winston Park Drive
 Oakville ON L6H 6J8 CA
 Technical Phone: 9058299500
 Fax: 9058299292
 Emergency Phone: 800-424-9300

Section 2 - Composition/Information on Ingredient

Substance Name: HEXANAL CAS #: 66-25-1 SARA 313 No
 Formula: C6H12O
 Synonyms: Aldehyde C-6 * Caproaldehyde * Caproic aldehyde * Capronaldehyde * n-Caproylaldehyde * l-Hexanal * Hexanaldehyde * Hexylaldehyde * Kapronaldehyd (Czech)
 RTECS Number: MN7175000

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Flammable.

HMIS RATING

HEALTH: 0
FLAMMABILITY: 3
REACTIVITY: 0

NFPA RATING

HEALTH: 0
FLAMMABILITY: 3
REACTIVITY: 0

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

ORAL EXPOSURE

If swallowed, wash out mouth with water provided person is conscious. Call a physician immediately.

INHALATION EXPOSURE

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

DERMAL EXPOSURE

In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

EYE EXPOSURE

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

FLAMMABLE HAZARDS

Flammable Hazards: Yes

EXPLOSION HAZARDS

Vapor may travel considerable distance to source of ignition and flash back. Container explosion may occur under fire conditions.

FLASH POINT

77 °F 25 °C Method: closed cup

EXPLOSION LIMITS

Lower: 1 % Upper: 7.5 %

AUTOIGNITION TEMP

204 °C

FLAMMABILITY

N/A

EXTINGUISHING MEDIA

Suitable: For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Specific Hazard(s): Flammable liquid. Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area. Shut off all sources of ignition. Use nonsparking tools.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP

Cover with dry-lime, sand, or soda ash. Place in covered containers using non-sparking tools and transport outdoors. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

ALDRICH - 115606

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Page 2

HANDLING

User Exposure: Avoid contact with eyes, skin, and clothing. Do not breathe vapor. Avoid prolonged or repeated exposure.

STORAGE

Suitable: Keep container closed. Keep away from heat, sparks, and open flame. Store at: 0-4°C
Store at 2-8°C

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS

Safety shower and eye bath. Use nonsparking tools. Mechanical exhaust required.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Hand: Compatible chemical-resistant gloves. Eye: Chemical safety goggles.

GENERAL HYGIENE MEASURES

Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties

Appearance

Physical State: Clear liquid
Color: Colorless

Property

Value At Temperature or Pressure

Molecular Weight: 100.16 AMU
 pH: N/A
 BP/MP Range: 119.0 - 124.0 °C
 MF/MP Range: <. - 20.0 °C
 Freezing Point: N/A
 Vapor Pressure: 10 mmHg 25 °C
 Vapor Density: > 1 g/l
 Saturated Vapor Conc.: N/A
 SG/Density: 0.814 g/cm3
 Bulk Density: N/A
 Odor Threshold: N/A
 Volatile%: N/A
 VOC Content: N/A
 Water Content: N/A
 Solvent Content: N/A
 Evaporation Rate: N/A
 Viscosity: N/A
 Surface Tension: N/A
 Partition Coefficient: Log Kow: 1.78
 Decomposition Temp.: N/A
 Flash Point: 77 °F 25 °C Method: closed cup
 Explosion Limits: Lower: 1 %
Upper: 7.5 %
 Flammability: N/A
 Autoignition Temp: 204 °C
 Refractive Index: 1.404

ALDRICH - 115606

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Page 3

Optical Rotation: N/A

Miscellaneous Data: N/A

Solubility: N/A

N/A - not available

Section 10 - Stability and Reactivity

STABILITY

Stable. Materials to Avoid: Oxidizing agents, Strong bases, Strong reducing agents Avoid contact with acid.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

Section 11 - Toxicological Information

ROUTE OF EXPOSURE

Skin Absorption: May cause skin irritation.
Skin Contact: May be harmful if absorbed through the skin.
Eye Contact: May cause eye irritation.
Inhalation: Material may be irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled.
Ingestion: May be harmful if swallowed.

SIGNS AND SYMPTOMS OF EXPOSURE

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

TOXICITY DATA

Oral
 Rat
 4890 mg/kg
 LD50
 Oral
 Mouse
 8292 mg/kg
 LD50
 Remarks: Lungs, Thorax, or Respiration:Dyspnea.
 Behavioral:Somnolence (general depressed activity).

Oral

Mammal

3700 mg/kg

LD50

IRRITATION DATA

Skin
Rabbit
500 mg
24H
Remarks: Mild irritation effect

Skin

Rabbit

ALDRICH - 115606

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Page 4

10 mg

24H

Remarks: Open irritation test

Skin

Rabbit

14.178 mg

24H

Remarks: Open irritation test

Eyes

Rabbit

100 mg

24H

Remarks: Mild irritation effect

Eyes

Rabbit

500 mg

24H

Remarks: Mild irritation effect

CHRONIC EXPOSURE - MUTAGEN

Species: Rat
Dose: 30 MMOL/L
Cell type: liver
Mutation test: Unscheduled DNA synthesis

Species: Hamster

Dose: 3 MMOL/L

Cell Type: lung

Mutation test: Mutation in mammalian somatic cells.

Section 12 - Ecological Information

N/A

ACUTE ECOTOXICITY TESTS

Test Type: LC50 FISH
Species: Pimephales promelas (Fathead minnow)
Time: 96 h
Value: 22 mg/l

ADDITIONAL RESULTS/DATA FROM RELEVANT SCIENTIFIC EXPERIMENTS

Because of harmful effects on water organisms, this material should not be introduced into drains.

Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

Contact a licensed professional waste disposal service to dispose of this material. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT

Proper Shipping Name: Hexaldehyde
UN#: 1207

ALDRICH - 115606

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Page 5

Class: 3

Packing Group: Packing Group III

Hazard Label: Flammable liquid

PIH: Not PIH

IATA

Proper Shipping Name: Hexaldehyde

IATA UN Number: 1207

Hazard Class: 3

Packing Group: III

Section 15 - Regulatory Information

EU ADDITIONAL CLASSIFICATION

R: 10
Risk Statements: Flammable.

US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Flammable.

UNITED STATES REGULATORY INFORMATION

SARA LISTED: No
TSCA INVENTORY ITEM: Yes

CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.
DSL: Yes
NDSL: No

Section 16 - Other Information

DISCLAIMER

For R&D use only. Not for drug, household or other uses.

WARRANTY

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. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2009 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

ALDRICH - 115606

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Page 6