

Material Safety Data Sheet

acc. to OSHA and ANSI

Printing date 12/20/2007

Reviewed on 02/05/2007

1 Identification of substance:**Product details:****Product name:** 4-Heptanone**Stock number:**

B21222

L06491

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#)**

4-Heptanone (CAS# 123-19-3): 100%

Identification number(s):**EINECS Number:** 204-608-9**3 Hazards identification****Hazard description:**

Xn Harmful

Information pertaining to particular dangers for man and environment

R 10 Flammable.

R 20 Harmful by inhalation.

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

HEALTH	2
FIRE	2
REACTIVITY	1

Health (acute effects) = 2

Flammability = 2

Reactivity = 1

4 First aid measures**After inhalation**

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.

Seek immediate medical advice.

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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**

Carbon dioxide, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

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).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

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:**

No special requirements.

Information about storage in one common storage facility:

Store away from oxidizing agents.

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Further information about storage conditions:

Keep container tightly sealed.

Store in cool, dry conditions in well sealed containers.

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:

4-Heptanone or Dipropyl ketone

	ppm
ACGIH TLV	50
Austria MAK	50
Denmark TWA	50
France VME	50
Norway TWA	25

Components with limit values that require monitoring at the workplace:**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.

Breathing equipment:

Use suitable respirator when high concentrations are present.

Protection of hands:

Check protective gloves prior to each use for their proper condition.

Impervious gloves

Material of gloves

The selection of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer.

Eye protection: Safety glasses**Body protection:** Protective work clothing.**9 Physical and chemical properties:****General Information**

Form:	Liquid
Color:	Colorless
Odor:	Not determined

Change in condition

Melting point/Melting range:	Not determined
Boiling point/Boiling range:	144-146°C (291-295°F)
Sublimation temperature / start:	Not determined

Flash point: 49°C (120°F)**Ignition temperature:** Not determined

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Decomposition temperature:	Not determined
Danger of explosion:	Product is not explosive. However, formation of explosive air/vapor mixtures is possible.
Explosion limits:	
Lower:	Not determined
Upper:	Not determined
Vapor pressure:	Not determined
Density at 20°C (68°F):	0.81 g/cm ³
Solubility in / Miscibility with Water:	Not miscible or difficult to mix

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: Oxidizing agents

Dangerous reactions No dangerous reactions known

Dangerous products of decomposition: Carbon monoxide and carbon dioxide

11 Toxicological information**Acute toxicity:****LD/LC50 values that are relevant for classification:**

Oral	LD50	3730 µL/kg (rat)
Dermal	LD50	5660 µL/kg (rbt)
Inhalative	LC50/6H	2690 ppm/6H (rat)
Irritation of skin	mild	500 mg/24H (rbt)
Irritation of eyes	mild	500 mg/24H (rbt)

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:**

The Registry of Toxic Effects of Chemical Substances (RTECS) reports the following effects in laboratory animals:

Behavioral - sleep.

Behavioral - somnolence (general depressed activity).

Behavioral - altered sleep time (including change in righting reflex).

Lungs, Thorax, or Respiration - respiratory depression

Liver - changes in liver weight.

Nutritional and Gross Metabolic - weight loss or decreased weight gain.

Kidney, Ureter, Bladder - changes in bladder weight.

Endocrine - hypoglycemia.

Additional toxicological information:

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

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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 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: UN2710
Packing group: III
Proper shipping name (technical name): DIPROPYL KETONE
Label: 3

Land transport ADR/RID (cross-border)



ADR/RID class: 3 (F1) Flammable liquids
Danger code (Kemler): 30
UN-Number: 2710
Packaging group: III
Description of goods: 2710 DIPROPYL KETONE

Maritime transport IMDG:



IMDG Class: 3
UN Number: 2710
Label: 3
Packaging group: III

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Product name: 4-Heptanone

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Proper shipping name: DIPROPYL KETONE**Air transport ICAO-TI and IATA-DGR:**

ICAO/IATA Class:	3
UN/ID Number:	2710
Label	3
Packaging group:	III
Proper shipping name:	DIPROPYL KETONE

15 Regulations**Product related hazard informations:****Hazard symbols:**

Xn Harmful

Risk phrases:

10 Flammable.

20 Harmful by inhalation.

Safety phrases:

24/25 Avoid contact with skin and eyes.

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 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