

Safety Data Sheet
According to OSHA and ANSI

Printing date 01/31/2013

Reviewed on 11/09/2007

1 Identification of the substance/mixture and of the company/undertaking**Product identifier****Product name:** n-Heptane**Stock number:** 32441**CAS Number:**

142-82-5

EC number:

205-563-8

Index number:

601-008-00-2

Details of the supplier of the safety data sheet**Manufacturer/Supplier:**

Alfa Aesar, A Johnson Matthey Company

Johnson Matthey Catalog Company, Inc.

30 Bond Street

Ward Hill, MA 01835-8099

Tel: 800-343-0660

Fax: 800-322-4757

Email: tech@alfa.com

www.alfa.com

Information Department: Health, Safety and Environmental Department**Emergency telephone number:**

During normal hours the Health, Safety and Environmental Department at (800) 343-0660. After normal hours call Carechem 24 at (866) 928-0789.

2 Hazards identification**Classification of the substance or mixture****Classification according to Regulation (EC) No 1272/2008**

GHS02 Flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.



GHS08 Health hazard

Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

STOT SE 3 H336 May cause drowsiness or dizziness.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC

Xn; Harmful

R65: Harmful: may cause lung damage if swallowed.



Xi; Irritant

R38: Irritating to skin.



F; Highly flammable

R11: Highly flammable.



N; Dangerous for the environment

R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R67: Vapours may cause drowsiness and dizziness.

Information concerning particular hazards for human and environment:

Causes a narcotic effect.

Label elements**Labelling according to Regulation (EC) No 1272/2008**

The substance is classified and labelled according to the CLP regulation.

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Hazard pictograms

GHS02



GHS07



GHS08

Signal word Danger**Hazard statements**

H225 Highly flammable liquid and vapour.

H315 Causes skin irritation.

H336 May cause drowsiness or dizziness.

H304 May be fatal if swallowed and enters airways.

Precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P241 Use explosion-proof electrical/ventilating/lighting/equipment.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard description:**WHMIS classification**

B2 - Flammable liquid

D2B - Toxic material causing other toxic effects

**Classification system****HMIS ratings (scale 0-4)**

(Hazardous Materials Identification System)

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

Other hazards**Results of PBT and vPvB assessment**

PBT: Not applicable.

vPvB: Not applicable.

3 Composition/information on ingredients**Chemical characterization: Substances****CAS# Description:**

142-82-5 n-Heptane

Identification number(s):

EC number: 205-563-8

Index number: 601-008-00-2

4 First aid measures**Description of 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.

After eye contact

Rinse opened eye for several minutes under running water. Then consult a doctor.

After swallowing Seek medical treatment.**Information for doctor****Most important symptoms and effects, both acute and delayed**Headache
Dizziness
Nausea

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Unconsciousness

Gastric or intestinal disorders.

Danger If swallowed or in case of vomiting, danger of entering the lungs.**Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

5 Firefighting measures**Extinguishing media****Suitable extinguishing agents**

Use carbon dioxide, extinguishing powder or foam. Water may be ineffective but may be used for cooling exposed containers.

Special hazards arising from the substance or mixture

If this product is involved in a fire, the following can be released:

Carbon monoxide (CO)

Advice for firefighters**Protective equipment:**

Wear self-contained respirator.

Wear fully protective impervious suit.

6 Accidental release measures**Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Keep away from ignition sources

Environmental precautions:

Do not allow material to be released to the environment without proper governmental permits.

Methods and material for containment and cleaning up:

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.

Reference to other sections

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****Precautions 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:

Protect against electrostatic charges.

Fumes can combine with air to form an explosive mixture.

Conditions for safe storage, including any incompatibilities**Storage****Requirements to be met by storerooms and receptacles:** Store in a cool location.**Information about storage in one common storage facility:** Store away from oxidizing agents.**Further information about storage conditions:**

Keep container tightly sealed.

Store in cool, dry conditions in well sealed containers.

Specific end use(s) No further relevant information available.**8 Exposure controls/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.

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

n-Heptane

	ppm
ACGIH TLV	400; 500-STEL
Austria MAK	500
Belgium TWA	400; 500-STEL

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Denmark TWA	200
Finland TWA	300; 500-STEL
France VME	400
Germany MAK	500
Japan OEL	200
Korea TLV	400; 500-STEL
Netherlands MAC-TGG	400
Norway TWA	200
Poland TWA	1200 mg/m ³ ; 2000 mg/m ³ -STEL
Russia TWA	200
Sweden NGV	200; 300-KTV
Switzerland MAK-W	400; 800-KZG-W
United Kingdom	400-LTEL; 500-STEL
USA PEL	500

142-82-5 n-Heptane (100.0%)

PEL (USA)	2000 mg/m ³ , 500 ppm
REL (USA)	Short-term value: C 1800* mg/m ³ , C 440* ppm Long-term value: 350 mg/m ³ , 85 ppm *15-min
TLV (USA)	Short-term value: 2050 mg/m ³ , 500 ppm Long-term value: 1640 mg/m ³ , 400 ppm
EL (Canada)	Short-term value: 500 ppm Long-term value: 400 ppm
EV (Canada)	Short-term value: 2.045 mg/m ³ , 500 ppm Long-term value: 1.635 mg/m ³ , 400 ppm

Additional information: No data

Exposure controls**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 skin.

Avoid contact with the eyes and skin.

Maintain an ergonomically appropriate working environment.

Breathing equipment: Use suitable respirator when high concentrations are present.**Protection of hands:**

Impervious gloves

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

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****Information on basic physical and chemical properties****General Information****Appearance:**

Form:	Liquid
Color:	Colorless
Odor:	Petroleum-like
Odor threshold:	Not determined.

pH-value: Not determined.

Change in condition

Melting point/Melting range:	-90.6°C (-131 °F)
Boiling point/Boiling range:	98.4°C (209 °F)
Sublimation temperature / start:	Not determined

Flash point:	-1°C (30 °F)
Flammability (solid, gaseous)	Not determined.
Ignition temperature:	215°C (419 °F)
Decomposition temperature:	Not determined
Auto igniting:	Not determined.
Explosion limits:	
Lower:	1.05 Vol %
Upper:	6.7 Vol %

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Vapor pressure at 22°C (72 °F):	53 hPa (40 mm Hg)
Density at 20°C (68 °F):	0.6795 g/cm ³ (5.67 lbs/gal)
Relative density	Not determined.
Vapor density	Not determined.
Evaporation rate	Not determined.
Solubility in / Miscibility with	
Water:	Not miscible or difficult to mix
Partition coefficient (n-octanol/water):	Not determined.
Viscosity:	
dynamic:	Not determined.
kinematic:	Not determined.
Other information	No further relevant information available.

10 Stability and reactivity

Reactivity
Chemical stability
Thermal decomposition / conditions to be avoided:
 Decomposition will not occur if used and stored according to specifications.
Possibility of hazardous reactions No dangerous reactions known
Incompatible materials: Oxidizing agents
Hazardous decomposition products: Carbon monoxide and carbon dioxide

11 Toxicological information

Information on toxicological effects
Acute toxicity:
Primary irritant effect:
 on the skin: Irritating effect.
 on the eye: Irritating effect.
Sensitization: No sensitizing effects known.
Subacute to chronic toxicity:
 May cause drowsiness or dizziness.
 May be fatal if swallowed and enters airways.
Subacute to chronic toxicity:
 Ingestion of n-heptane may cause abdominal pain and nausea. Causes skin and eye irritation.
 Inhalation may produce light headedness, dizziness, muscle incoordination, loss of appetite and nausea. Higher concentrations may cause CNS depression, narcosis and unconsciousness.
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

Toxicity
Aquatic toxicity: No further relevant information available.
Persistence and degradability No further relevant information available.
Behavior in environmental systems:
Bioaccumulative potential No further relevant information available.
Mobility in soil No further relevant information available.
Ecotoxicological effects:
Remark: Very toxic for aquatic organisms
Additional ecological information:
General notes:
 Do not allow product to reach ground water, water course or sewage system, even in small quantities.
 Danger to drinking water if even extremely small quantities leak into the ground.
 Also poisonous for fish and plankton in water bodies.
 Do not allow material to be released to the environment without proper governmental permits.
 May cause long lasting harmful effects to aquatic life.
 Very toxic for aquatic organisms
Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.
Other adverse effects No further relevant information available.

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13 Disposal considerations**Waste treatment methods**

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

UN-Number DOT, ADR, IMDG, IATA	UN1206
UN proper shipping name DOT, IMDG, IATA ADR	HEPTANES 1206 HEPTANES, ENVIRONMENTALLY HAZARDOUS
Transport hazard class(es) DOT	
	
Class Label ADR	3 Flammable liquids. 3
 	
Class Label IMDG, IATA	3 (F1) Flammable liquids 3
	
Class Label	3 Flammable liquids. 3
Packing group DOT, ADR, IMDG, IATA	II
Environmental hazards:	Environmentally hazardous substance, liquid; Marine Pollutant
Marine pollutant:	No
Special marking (ADR):	Symbol (fish and tree)
Special precautions for user Danger code (Kemler):	Warning: Flammable liquids 33
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
UN "Model Regulation":	UN1206, HEPTANES, ENVIRONMENTALLY HAZARDOUS, 3, II

15 Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture

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.

This substance is subject to a Significant New Use Rule (SNUR) promulgated under Section 5(a)(2) of the Toxic Substances Control Act (TSCA). See 40 CFR 721. This product is being sold for research and development use.

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Other regulations, limitations and prohibitive regulations**Substances of very high concern (SVHC) according to REACH, Article 57**

Substance is not listed.

REACH - Pre-registered substances Substance is listed.**Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.**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:**Zachariah C. Holt
Global EHS Manager**Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

HMIS: Hazardous Materials Identification System (USA)

WHMIS: Workplace Hazardous Materials Information System (Canada)

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