

**Material Safety Data Sheet**

According to OSHA and ANSI

Printing date 06/04/2011

Reviewed on 03/04/2010

**1 Identification of the substance/mixture and of the company/undertaking****Product identifier****Product name:** 2-Methylpentane**Stock number:** L03001, 31882**EINECS Number:**

203-523-4

**Index number:**

601-007-00-7

**Relevant identified uses of the substance or mixture and uses advised against.****Sector of Use** SU24 Scientific research and development**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**

GHS02 Flame

H225 Highly flammable liquid and vapour.



GHS08 Health hazard

H304 May be fatal if swallowed and enters airways.



GHS09 Environment

H411 Toxic to aquatic life with long lasting effects.



GHS07

H315 Causes skin irritation.

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

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R67: Vapours may cause drowsiness and dizziness.

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**Product name: 2-Methylpentane**

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**Label elements****Labelling according to EU guidelines:****Code letter and hazard designation of product:**

Xn Harmful

F Highly flammable

N Dangerous for the environment

**Risk phrases:**

11 Highly flammable.

38 Irritating to skin.

51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

65 Harmful: may cause lung damage if swallowed.

67 Vapours may cause drowsiness and dizziness

**Safety phrases:**

9 Keep container in a well-ventilated place.

16 Keep away from sources of ignition - No smoking.

29 Do not empty into drains.

33 Take precautionary measures against static discharges.

61 Avoid release to the environment. Refer to special instructions/Safety data sheets

62 If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label

**Hazard description:****WHMIS classification****Classification system****HMIS ratings (scale 0-4)**

(Hazardous Materials Identification System)

HEALTH	2
FIRE	3
REACTIVITY	1

Health (acute effects) = 2

Flammability = 3

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:**

2-Methylpentane (CAS# 107-83-5)

**Identification number(s):****EINECS Number:** 203-523-4**Index number:** 601-007-00-7**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 immediate medical advice.**5 Firefighting measures****Extinguishing media****Suitable extinguishing agents** CO<sub>2</sub>, sand, extinguishing powder. Do not use water.**For safety reasons unsuitable extinguishing agents** Water

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**Special hazards arising from the substance or mixture**

In case of fire, the following can be released:

Carbon monoxide and carbon dioxide

Formation of toxic gases is possible during heating or in case of fire.

**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).

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.

Prevent formation of aerosols.

**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.

**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.

Store away from halogens.

**Further information about storage conditions:**

Keep container tightly sealed.

Store in cool, dry conditions in well sealed containers.

**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:**

Hexane isomers, other than n-hexane

ppm

ACGIH TLV 500; 1000-STEL

Belgium TWA 500; 1000-STEL

Denmark TWA 300

Finland TWA 500; 625-STEL

France TWA 500

Germany TWA 200

Ireland TWA 500; 1000-STEL

Sweden TWA 200; 300-STEL

Switzerland TWA 500

**Additional information:** No data

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**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.

**Breathing equipment:**

Use suitable respiratory protective device in case of insufficient ventilation.

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

<b>Form:</b>	Liquid
<b>Color:</b>	Colorless
<b>Odor:</b>	Petroleum-like
<b>Odour threshold:</b>	Not determined.

**pH-value:** Not determined.**Change in condition**

<b>Melting point/Melting range:</b>	-154°C (-245 °F)
<b>Boiling point/Boiling range:</b>	61-62°C (142-144 °F)
<b>Sublimation temperature / start:</b>	Not determined

**Flash point:** -40°C (-40 °F)**Flammability (solid, gaseous)** Not applicable.**Ignition temperature:** 300°C (572 °F)**Decomposition temperature:** Not determined**Auto igniting:** Not determined.**Explosion limits:**

<b>Lower:</b>	1.2 Vol %
<b>Upper:</b>	7.4 Vol %

**Vapor pressure at 20°C (68 °F):** 200 hPa (150 mm Hg)**Density at 20°C (68 °F):** 0.653 g/cm<sup>3</sup> (5.449 lbs/gal)**Relative density** Not determined.**Vapour density** Not determined.**Evaporation rate** Not determined.**Solubility in / Miscibility with****Water at 25°C (77 °F):** 0.014 g/l**Segregation coefficient (n-octanol/water):** Not determined.**Viscosity:**

<b>dynamic at 20°C (68 °F):</b>	0.31 mPas
<b>kinematic:</b>	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** Reacts with strong oxidizing agents**Incompatible materials:**

Oxidizing agents

Halogens

**Hazardous decomposition products:** Carbon monoxide and carbon dioxide

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**11 Toxicological information****Information on toxicological effects****Acute toxicity:****Primary irritant effect:****on the skin:** Irritant to skin and mucous membranes.**on the eye:** May cause irritation**Sensitization:** No sensitizing effects known.**Subacute to chronic toxicity:**

n-Hexane causes skin irritation, CNS effects, lung irritation, headache, dizziness, drowsiness, Repeated or prolonged exposure to the vapor can cause peripheral polyneuropathy. Symptoms include incoordination, slowed reaction time, blurred vision, slurred speech, facial numbness, loss of sensation. Gradual recovery is normally found after removal from exposure. Also causes reproductive effects in laboratory animals.

**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:** Toxic for aquatic organisms**Additional ecological information:****General notes:**

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even 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.

Toxic for aquatic organisms

**Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.**Other adverse effects** No further relevant information available.**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****DOT regulations:****Hazard class:**

3

**Identification number:**

UN1208

**Packing group:**

II

**Hazardous substance:**

5000 lbs, 2270 kg

**Proper shipping name (technical name):** HEXANES**Label**

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**Remarks:** Special marking with the symbol (fish and tree).**Land transport ADR/RID (cross-border)**

**ADR/RID class:** 3 (F1) Flammable liquids  
**Danger code (Kemler):** 33  
**UN-Number:** 1208  
**Packaging group:** II  
**Special marking:** Symbol (fish and tree)  
**UN proper shipping name:** 1208 HEXANES

**Maritime transport IMDG:**

**IMDG Class:** 3  
**UN Number:** 1208  
**Label:** 3  
**Packaging group:** II  
**EMS Number:** F-E, S-D  
**Marine pollutant:** Yes (P)  
**Symbol (fish and tree)**  
**Proper shipping name:** HEXANES

**Air transport ICAO-TI and IATA-DGR:**

**ICAO/IATA Class:** 3  
**UN/ID Number:** 1208  
**Label:** 3  
**Packaging group:** II  
**Proper shipping name:** HEXANES

**UN "Model Regulation":** UN1208, HEXANES, 3, II**Environmental hazards:** Environmentally hazardous substance, liquid; Marine Pollutant**Special precautions for user** Warning: Flammable liquids**Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.**15 Regulatory information****Safety, health and environmental regulations/legislation specific for the substance or mixture****Product related hazard informations:****Hazard symbols:**

Xn Harmful

F Highly flammable

N Dangerous for the environment

**Risk phrases:**

11 Highly flammable.

38 Irritating to skin.

51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

65 Harmful: may cause lung damage if swallowed.

67 Vapours may cause drowsiness and dizziness

**Safety phrases:**

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62 If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label

**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.

**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)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

P: Marine Pollutant

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)

USA