

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier**

Trade name **2-Pentyne**
Stock number: L02973
CAS Number: 627-21-4
EC number: 210-989-2

1.2 Relevant identified uses of the substance or mixture and uses advised against.
Identified use: SU24 Scientific research and development

1.3 Details of the supplier of the safety data sheet


Manufacturer/Supplier: Alfa Aesar GmbH & Co.KG
A Johnson Matthey Company
Zeppelinstr. 7b
76185 Karlsruhe / Germany
Tel: +49 (0) 721 84007 280
Fax: +49 (0) 721 84007 300
Email: tech@alfa.com
www.alfa.com
Product safety Tel + +049 (0) 7275 988687-0
1.4 Emergency telephone number: Carechem 24: +44 (0) 1235 239 670 (Multi-language emergency number)
Poison Information Center Mainz
www.giftinfo.uni-mainz.de Telephone: +49(0)6131/19240

SECTION 2: Hazards identification**2.1 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.


Eye Irrit. 2 H319 Causes serious eye irritation.

STOT SE 3 H335 May cause respiratory irritation.


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

 Xn; Harmful

R65: Harmful: may cause lung damage if swallowed.

 Xi; Irritant

R36/37/38: Irritating to eyes, respiratory system and skin.

 F; Highly flammable

R11: Highly flammable.

Information concerning particular hazards for human and environment:

Not applicable

Other hazards that do not result in classification

No information known.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

Hazard pictograms

Signal word

Hazard statements

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

GHS02, GHS07, GHS08

Danger

H225 Highly flammable liquid and vapour.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

H304 May be fatal if swallowed and enters airways.

Precautionary statements

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

P280 Wear protective gloves.

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

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P315 Get immediate medical advice/attention.

P403 Store in a well-ventilated place.

2.3 Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

SECTION 3: Composition/information on ingredients**3.1 Substances**

CAS# Designation: 627-21-4 2-Pentyne

Identification number(s):

EC number: 210-989-2

SECTION 4: First aid measures**4.1 Description of first aid measures**

After inhalation

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

Seek immediate medical advice.

After skin contact

Instantly 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 doctor.

After swallowing

Seek medical treatment.

4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

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SECTION 5: Firefighting measures

5.1 Extinguishing media Suitable extinguishing agents	CO ₂ , sand, extinguishing powder. Do not use water.
5.2 Special hazards arising from the substance or mixture	If this product is involved in a fire, the following can be released: Carbon monoxide and carbon dioxide
5.3 Advice for firefighters Protective equipment:	Wear self-contained breathing apparatus. Wear full protective suit.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures	Wear protective equipment. Keep unprotected persons away. Ensure adequate ventilation Keep away from ignition sources
6.2 Environmental precautions:	Do not allow material to be released to the environment without proper governmental permits. Do not allow product to reach sewage system or water bodies. Do not allow to enter the ground/soil.
6.3 Methods and material for containment and cleaning up:	Keep away from ignition sources. Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Dispose of contaminated material as waste according to item 13. Ensure adequate ventilation.
Prevention of secondary hazards:	Keep away from ignition sources.
6.4 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 information on disposal.

SECTION 7: Handling and storage

7.1 Precautions for safe handling	Keep containers tightly sealed. Store in cool, dry place in tightly closed containers. Ensure good ventilation/exhaustion at the workplace.
Information about protection against explosions and fires:	Protect against electrostatic charges. Fumes can combine with air to form an explosive mixture.
7.2 Conditions for safe storage, including any incompatibilities Storage Requirements to be met by storerooms and containers: Information about storage in one common storage facility: Further information about storage conditions:	Store in cool location. No information known. Keep container tightly sealed. Store in cool, dry conditions in well sealed containers. No further relevant information available.
7.3 Specific end use(s)	

SECTION 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.
8.1 Control parameters Components with critical values that require monitoring at the workplace: Additional information:	Not required. No data
8.2 Exposure controls Personal protective equipment General protective and hygienic measures	The usual precautionary measures should be adhered to in handling the chemicals. Keep away from foodstuffs, beverages and food. Instantly remove any soiled and impregnated garments. Wash hands during breaks and at the end of the work. Avoid contact with the eyes and skin. Maintain an ergonomically appropriate working environment. Use breathing protection with high concentrations. Check protective gloves prior to each use for their proper condition. The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
Breathing equipment: Protection of hands:	Impervious gloves Not determined Safety glasses Face protection Protective work clothing.
Material of gloves Penetration time of glove material Eye protection:	
Body protection:	

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties General Information Appearance:	
Form:	Liquid
Colour:	Colourless
Smell:	Unpleasant
Odour threshold:	Not determined.
pH-value:	Not determined.
Change in condition Melting point/Melting range: Boiling point/Boiling range: Sublimation temperature / start:	-109 °C 55-56 °C Not determined
Flash point: Inflammability (solid, gaseous) Ignition temperature: Decomposition temperature: Self-inflammability:	-20 °C Not applicable. Not determined Not determined Not determined.

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Critical values for explosion:

Lower:	1,2 Vol %
Upper:	8,8 Vol %
Steam pressure at 20 °C:	254 hPa
Density at 20 °C	0,71 g/cm ³
Relative density	Not determined.
Vapour 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.
9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

10.1 Reactivity	No information known.
10.2 Chemical stability	Stable under recommended storage conditions.
Thermal decomposition / conditions to be avoided:	No decomposition if used and stored according to specifications.
10.3 Possibility of hazardous reactions	No dangerous reactions known
10.5 Incompatible materials:	Oxidizing agents No information known.
10.6 Hazardous decomposition products:	Carbon monoxide and carbon dioxide

SECTION 11: Toxicological information

11.1 Information on toxicological effects	
Acute toxicity:	No effects known.
LD/LC50 values that are relevant for classification:	No data
Skin irritation or corrosion:	Causes skin irritation.
Eye irritation or corrosion:	Causes serious eye irritation.
Sensitization:	No sensitizing effect known.
Germ cell mutagenicity:	No effects known.
Carcinogenicity:	No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.
Reproductive toxicity:	No effects known.
Specific target organ system toxicity - repeated exposure:	No effects known.
Specific target organ system toxicity - single exposure:	May cause respiratory irritation.
Aspiration hazard:	May be fatal if swallowed and enters airways.
Additional toxicological information:	To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.



SECTION 12: Ecological information

12.1 Toxicity	
Aquatic toxicity:	No further relevant information available.
12.2 Persistence and degradability	No further relevant information available.
12.3 Bioaccumulative potential	No further relevant information available.
12.4 Mobility in soil	No further relevant information available.
Additional ecological information:	
General notes:	Do not allow material to be released to the environment without proper governmental permits. Water hazard class 1 (Self-assessment): slightly hazardous for water. Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system. Avoid transfer into the environment.
12.5 Results of PBT and vPvB assessment	
PBT:	Not applicable.
vPvB:	Not applicable.
12.6 Other adverse effects	No further relevant information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods	
Recommendation	Hand over to disposers of hazardous waste. Must be specially treated under adherence to official regulations. Consult state, local or national regulations for proper disposal.
Uncleaned packagings:	
Recommendation:	Disposal must be made according to official regulations.

SECTION 14: Transport information

UN-Number	
ADR, IMDG, IATA	UN3295
14.2 UN proper shipping name	
ADR	3295 HYDROCARBONS, LIQUID, N.O.S., special provision 640D (2-Pentyne)
IMDG, IATA	HYDROCARBONS, LIQUID, N.O.S. (2-Pentyne)
14.3 Transport hazard class(es)	
ADR	
	
Class	3 (F1) Flammable liquids.
Label	3
IMDG, IATA	
	
Class	3 Flammable liquids.
Label	3

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Safety data sheet
according to 1907/2006/EC, Article 31

Revision: 02.03.2010

Printing date 02.07.2013

Trade name **2-Pentyne**

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Packing group
ADR, IMDG, IATA

II

14.5 Environmental hazards:

Not applicable.

14.6 Special precautions for user

Warning: Flammable liquids.

Kemler Number:

30

EMS Number:

F-E,S-D

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC**Code**

Not applicable.

Transport/Additional information:**ADR****Excepted quantities (EQ):**

E2

Limited quantities (LQ)

1L

Transport category

2

Tunnel restriction code

D/E

UN "Model Regulation":

UN3295, HYDROCARBONS, LIQUID, N.O.S., special provision 640D (2-Pentyne), 3, II

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****Australian Inventory of Chemical**

Substance is not listed.

Substances**Standard for the Uniform Scheduling of**

Substance is not listed.

Drugs and Poisons**National regulations****Information about limitation of use:**For use only by technically qualified individuals.
Employment restrictions concerning young persons must be observed.**Water hazard class:**

Water hazard class 1 (Self-assessment): slightly hazardous for water.

Other regulations, limitations and prohibitive regulations**ELINCS (European List of Notified Chemical**

Substance is not listed.

Substances)**Substances of very high concern (SVHC)**

Substance is not listed.

according to REACH, Article 57**REACH - Pre-registered substances**

Substance is listed.

15.2 Chemical safety assessment:

A Chemical Safety Assessment has not been carried out.

SECTION 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 data specification sheet: Health, Safety and Environmental Department.**Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
 ICAO: International Civil Aviation Organization
 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
 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)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent

DE/E