

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

Printing date 19.05.2023

Version number 1

Revision: 19.05.2023

SECTION 1: Identification of the substance/mixture and of the company/undertaking

· **1.1 Product identifier**

· **Trade name:** n-Pentane

· **Article number:** 268

· **CAS Number:**

109-66-0

· **EC number:**

203-692-4

· **Index number:**

601-006-00-1

· **Registration number** 01-2119459286-30

· **1.2 Relevant identified uses of the substance or mixture and uses advised against**

No further relevant information available.

· **Application of the substance / the mixture** Solvent for various applications

· **1.3 Details of the supplier of the safety data sheet**

· **Manufacturer/Supplier:**

Möller Chemie GmbH & Co. KG

Bürgerkamp 1

D-48565 Steinfurt

Tel.: 02551/9340-0

Fax: 02551/9340-60

· **Further information obtainable from:** Product safety department

· **1.4 Emergency telephone number:**

Poison Control Center Mainz - 24 hour emergency service - Tel.: +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. 1 H224 Extremely flammable liquid and vapour.



GHS08 health hazard

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



GHS09 environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.



GHS07

STOT SE 3 H336 May cause drowsiness or dizziness.

· **2.2 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 GHS09

Signal word Danger**Hazard statements**

H224 Extremely flammable liquid and vapour.

H336 May cause drowsiness or dizziness.

H304 May be fatal if swallowed and enters airways.

H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

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

P331 Do NOT induce vomiting.

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

P405 Store locked up.

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

Additional information:

EUH066 Repeated exposure may cause skin dryness or cracking.

2.3 Other hazards

The substance/mixture does not contain any components that are to be classified according to REACH Article 57(f) or Commission Delegated Regulation (EU) 2017/2100 or Commission Delegated Regulation (EU) 2018/605 at levels of 0.1% or more have endocrine disrupting properties.

Results of PBT and vPvB assessment**PBT:**

The product does not contain any substances above legal limits that meet the criteria for PBT (persistent, bioaccumulative and toxic).

vPvB:

The product does not contain any substances above legal limits that meet the criteria for vPvB (very persistent and very bioaccumulative).

SECTION 3: Composition/information on ingredients

3.1 Substances**CAS No. Description**

109-66-0 n-Pentane

Identification number(s)**EC number:** 203-692-4**Index number:** 601-006-00-1**Additional information:**

Chemical group designation:

Saturated aliphatic hydrocarbon

SECTION 4: First aid measures

4.1 Description of first aid measures**General information:** Immediately remove any clothing soiled by the product.**After inhalation:** Supply fresh air, consult doctor in case of complaints.**After skin contact:**

In case of contact with the skin, take off soiled, soaked clothing immediately and wash the skin immediately with plenty of water and soap.

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- **After eye contact:**
Rinse opened eye for several minutes under running water.
Remove any contact lenses if possible. Rinse further.
Seek medical treatment.
- **After swallowing:** Do not induce vomiting; call for medical help immediately.
- **4.2 Most important symptoms and effects, both acute and delayed**
Headache, dizziness, fatigue, nausea and other central nervous system effects.
- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:** CO₂, powder or water spray. Fight larger fire with alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **5.2 Special hazards arising from the substance or mixture**
Formation of explosive vapour/air mixtures possible.
In case of fire, the following can be released:
Carbon monoxide, carbon dioxide
- **5.3 Advice for firefighters**
- **Protective equipment:** Wear full protective suit with self-contained breathing apparatus.
- **Additional information** Cool endangered receptacles with water spray.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
- **6.2 Environmental precautions:**
Do not allow product to reach sewage system or any water course.
Inform respective authorities in case of seepage into water course or sewage system.
- **6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomaceous earth, acid binder, universal binder, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **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 disposal information.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling** Open and handle receptacle with care.
- **Information about fire - and explosion protection:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Keep container tightly closed Keep us in a cool, well-ventilated place.
- **Information about storage in one common storage facility:** See section 10.5
- **Further information about storage conditions:**
Keep container tightly sealed.
Do not seal receptacle gas tight.
Protect from heat and direct sunlight.

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- **Storage class:**
3
flammable
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· 8.1 Control parameters

· **Ingredients with limit values that require monitoring at the workplace:**

109-66-0 pentane

IOELV	Long-term value: 3000 mg/m ³ , 1000 ppm
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· **DNELs**

worker:

long-term systemic effects, dermal: 432 mg/kg/d

long-term systemic effects, inhalative: 3000 mg/m³

Consumer:

long-term systemic effects, dermal: 214 mg/kg/d

long-term systemic effects, inhalative: 643 mg/m³

long-term systemic effects, oral: 214 mg/kg/d

· **PNECs**

Water: 0.23 mg/l

Sediment: 1.2 mg/kg

Soil: 0.55 mg/kg

Sewage treatment plant: 3.6 mg/l

- **Additional information:** The lists valid during the making were used as basis.

· 8.2 Exposure controls

- **Appropriate engineering controls** No further data; see item 7.

· **Individual protection measures, such as personal protective equipment**

· **General protective and hygienic measures:**

The usual precautionary measures are to be adhered to when handling chemicals.

Keep away from foodstuffs, beverages and feed.

Wash hands before breaks and at the end of work.

Immediately remove all soiled and contaminated clothing

Avoid contact with the eyes and skin.

Do not inhale gases / fumes / aerosols.

· **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

· **Hand protection**

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

Nitrile rubber, NBR

PVC gloves

Neoprene gloves

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.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

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· **Eye/face protection**

Tightly sealed goggles

· **Body protection:** Solvent resistant protective clothing

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**· **General Information**

· Physical state	Fluid
· Colour:	Colourless
· Odour:	paraffinic
· Melting point/freezing point:	-129.7 °C
· Boiling point or initial boiling point and boiling range	35 - 37 °C
· Lower and upper explosion limit	
· Lower:	1.4 Vol %
· Upper:	7.8 Vol %
· Flash point:	-50 °C
· Ignition temperature:	285 °C
· Viscosity:	
· Kinematic viscosity at 25 °C	0.44 mm ² /s
· Solubility	
· water at 20 °C:	38.5 mg/l
· Vapour pressure at 20 °C:	573 hPa
· Density and/or relative density	
· Density at 15 °C:	0.626 g/cm ³

· **9.2 Other information**· **Appearance:**· **Form:** Fluid· **Important information on protection of health and environment, and on safety.**· **Explosive properties:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.· **Information with regard to physical hazard classes**

· Explosives	Void
· Flammable gases	Void
· Aerosols	Void
· Oxidising gases	Void
· Gases under pressure	Void
· Flammable liquids	
Extremely flammable liquid and vapour.	
· Flammable solids	Void
· Self-reactive substances and mixtures	Void
· Pyrophoric liquids	Void
· Pyrophoric solids	Void
· Self-heating substances and mixtures	Void
· Substances and mixtures, which emit flammable gases in contact with water	Void
· Oxidising liquids	Void
· Oxidising solids	Void
· Organic peroxides	Void
· Corrosive to metals	Void

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· **Desensitised explosives**

Void

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** Reacts with strong oxidising agents.
- **10.4 Conditions to avoid** Avoid all sources of ignition: heat, sparks, open flames.
- **10.5 Incompatible materials:** Strong oxidizing agents

SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity** Based on available data, the classification criteria are not met.

- **LD/LC50 values relevant for classification:**

Dermal	LD50	>2.000 mg/kg (rat)
Inhalative	LC50/ 4h	>20 mg/l (rat)

- **Skin corrosion/irritation**
Slight irritant effect possible - does not require labeling.
Prolonged or repeated contact may degrease the skin and lead to dermatitis.
- **Serious eye damage/irritation** Low irritation possible - not required for identification.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure**
May cause drowsiness or dizziness.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard**
May be fatal if swallowed and enters airways.
- **11.2 Information on other hazards**
- **Endocrine disrupting properties** Substance is not listed.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:**
Fish:
 $1 < LC/IC/EC50 \leq 10\text{mg/l}$
Invertebrates:
 $1 < Lc/EC/IC50 \leq 10\text{mg/L}$
Algae:
 $10 < LC/EC/IC50 \leq 100\text{ mg/l}$
- **12.2 Persistence and degradability** Easily biodegradable
- **12.3 Bioaccumulative potential** Bioaccumulation potentially possible.
- **12.4 Mobility in soil** No further relevant information available.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** The product is not considered to be persistent, bioaccumulating nor toxic (PBT).
- **vPvB:** The product is not considered to be persistent or very bioaccumulative (vPvB).
- **12.6 Endocrine disrupting properties** For information on endocrine disrupting properties see section 11.
- **12.7 Other adverse effects**
- **Remark:** Toxic for fish

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· **Additional ecological information:**· **General notes:**

Water hazard class 2 (German Regulation) (Assessment by list): hazardous for water
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.
Toxic for aquatic organisms

SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**· **Recommendation**

Disposal according to local regulations.
Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packaging:**

· **Recommendation:** Disposal must be made according to official regulations.

SECTION 14: Transport information

· **14.1 UN number or ID number**· **ADR, IMDG, IATA**

UN1265

· **14.2 UN proper shipping name**· **ADR**

1265 PENTANES, ENVIRONMENTALLY HAZARDOUS

· **IMDG**

PENTANES, MARINE POLLUTANT

· **IATA**

PENTANES

· **14.3 Transport hazard class(es)**· **ADR**· **Class**

3 (F1) Flammable liquids.

· **Label**

3

· **IMDG**· **Class**

3 Flammable liquids.

· **Label**

3

· **IATA**· **Class**

3 Flammable liquids.

· **Label**

3

· **14.4 Packing group**· **ADR, IMDG, IATA**

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· 14.5 Environmental hazards:	Environmentally hazardous substance, liquid; Marine Pollutant
· Marine pollutant:	Yes (P) Symbol (fish and tree)
· Special marking (ADR):	Symbol (fish and tree)
· 14.6 Special precautions for user	Warning: Flammable liquids.
· Hazard identification number (Kemler code):	33
· EMS Number:	F-E,S-D
· Stowage Category	E
· 14.7 Maritime transport in bulk according to IMO instruments	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	0
· Excepted quantities (EQ)	Code: E3 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 300 ml
· Transport category	1
· Tunnel restriction code	D/E
· IMDG	
· Limited quantities (LQ)	0
· Excepted quantities (EQ)	Code: E3 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 300 ml
· UN "Model Regulation":	UN 1265 PENTANES, 3, 1, ENVIRONMENTALLY HAZARDOUS

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** Substance is not listed.
- **Seveso category**
E2 Hazardous to the Aquatic Environment
P5a FLAMMABLE LIQUIDS
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 10 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 50 t
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3, 40
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:** Product safety department
- **Contact:** Mrs. Steyer
- **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 Organisation
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods

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*IATA: International Air Transport Association**P: Marine Pollutant**GHS: Globally Harmonised 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)**DNEL: Derived No-Effect Level (REACH)**PNEC: Predicted No-Effect Concentration (REACH)**LC50: Lethal concentration, 50 percent**LD50: Lethal dose, 50 percent**PBT: Persistent, Bioaccumulative and Toxic**vPvB: very Persistent and very Bioaccumulative**Flam. Liq. 1: Flammable liquids – Category 1**STOT SE 3: Specific target organ toxicity (single exposure) – Category 3**Asp. Tox. 1: Aspiration hazard – Category 1**Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2*

-EU-