

# Safety Data Sheet

according to Regulations 1907/2006/EC (REACH) and 2015/830/EU

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

### 1.1 Product identifier

REF 722316  
 Product name Test mixture for OPTIMA  
 REACH Registration number(s): see SECTION 3.1/3.2 or  
 A registration number for the substance(s) does not exist because the annual tonnage does not require registration or the substance or its use is excluded from registration.

1 x 1 mL MN OPTIMA test mixture in n-pentane

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

**Relevant identified uses**  
 Product for analytical use.  
 Exposure Scenario Classification according REACH, RIP 3.2 Codes: SU 0-2, PC 21, PROC 15, AC 0  
 The exposure scenario is integrated into sections 1-16.  
**Uses advised against**  
 not described

### 1.3 Details of the supplier of the safety data sheet

**Manufactured by:**  
 MACHEREY-NAGEL GmbH & Co. KG  
 Neumann-Neander-Str. 6-8, 52355 Dueren, GERMANY  
 Tel.: +49 2421 969 0 E-mail: sds@mn-net.com (msds@mn-net.com)

### 1.4 Emergency telephone number

Outside Germany (DE): Call your regional Poisons Information Service or call local Life Saving Service.  
 DE: Gemeinsames Giftinformationszentrum (GGIZ) 99089 Erfurt tel. +49 361 730 730

You find our current versions of SDS (22 languages) in Internet: <http://www.mn-net.com/SDS>

## SECTION 2: Hazard identification

### 2.1 Classification of the substance or mixture

1 mL MN OPTIMA test mixture in n-pentane



GHS02 GHS07 GHS08 GHS09

Signal word DANGER

Hazard identification	Hazard classes/categories
EUH066	Skin Irrit. 2
H224	Flam. Liq. 1
H304	Asp. Tox. 1
H336	STOT SE 3
H411	Aquatic Chronic 2

### 2.2 Label elements

Inner packages up to 10 mL need max. 2 symbols (Annex I - 1.5.2.4.1 / 2).

Harmful chemicals/mixtures with signal word: **WARNING** and highly flammable chemicals/mixtures must not be labelled with H and P phrases **until 125 mL** (EU 1272/2008 Annex I - 1.5.2).  
**Not hazardous labelled**, because 1 mL units or minimal amounts have low hazard risk. The following listed labelling would be creating an "OVERLABELLING".

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## 1 mL MN OPTIMA test mixture in n-pentane



GHS02



GHS07



GHS08



GHS09

Signal word: DANGER

H224, H304

Extremely flammable liquid and vapour. May be fatal if swallowed and enters airways.

P301+310, P331

IF SWALLOWED: Immediately call a POISON CENTER/ doctor. Do NOT induce vomiting.

## 2.3 Other hazards

### Possible hazards from physicochemical properties

Flammable properties. Vapour forms explosive mixtures with air. ---

### Information pertaining to particular risks to human and possible symptoms

May be fatal if swallowed and enters airways. -

### Information pertaining to particular risks to the environment

PBT: not applicable

vPvB: not applicable

### Other hazards

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## SECTION 3: Composition/information on ingredients

### 3.1 Substances or 3.2 Mixtures

#### 1 mL MN OPTIMA test mixture in n-pentane

Chemical: *n-pentane*

CAS No.: 109-66-0

Classification: H224, Flam. Liq. 1, H304, Asp. Tox. 1, H336, STOT SE 3, H411, Aquatic Chronic 2, EUH066, Skin Irrit. 2

Formula: C<sub>5</sub>H<sub>12</sub>

TSCA Inventory: listed

REACH Reg. No.: 01- 2119459286-30-xxxx

EC No.: 203-692-4

Indice No.: 601-006-00-1

RTECS: RZ9450000

MFCID: 00009498

KE No.: KE-27968

Concentration: 90 - <100 %

acc. CLP (GHS): H224, Flam. Liq. 1, H304, Asp. Tox. 1, H336, STOT SE 3, H411, Aquatic Chronic 2, EUH066, Skin Irrit. 2

Chemical: *test chemical(s) (ppm)*

CAS No.: -

Classification: No criteria for classification or naming of chemical not required.

TSCA Inventory: all <0.1%

Concentration: 0,1 - <1 %

acc. CLP (GHS): The criteria for classification are not fulfilled.

### 3.3 Remarks

List of H and P phrases: see section 16.1

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

Place insured person out of danger zone to fresh air immediately. Ensure quiet, warmth, and provide resuscitation if necessary. If necessary contact medical advice.

#### 4.1.1 After SKIN Contact

Remove contaminated clothing. Rinse the affected skin or mucous membrane thoroughly under running water.

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- 4.1.2 After EYE Contact**  
After contact with the eyes rinse thoroughly under running water with the eyelid wide open for min. 10 minutes with eye washing bottle, eye douche or running water (protect intact eye). Before (if possible) apply eye drops Proxymetacaine 0.5%, if the opening the eyelid convulsion is painful. Further treatment to be carried out by an eye specialist.
- 4.1.3 After INHALATION of vapours**  
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- 4.1.4 After ORAL Intake**  
After oral intake lots of water should be drunk after it has been ingested. ---
- 4.2 Most important symptoms and effects, both acute and delayed**  
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- 4.3 Indication of any immediate medical attention and special treatment needed**  
After SKIN CONTACT rinse with water for a long time. Apply glucocorticosteroides following inflammatory reactions. ---

## SECTION 5: Firefighting measures

- 5.1 Extinguishing media**  
Fire extinguishers appropriate to the fire classification, and, if applicable, a fire blanket must be available in a prominent location in the work area. All extinguishers like FOAM, WATER SPRAY, DRY POWDER, CARBON DIOXIDE can be used, if there is not a special exemption in the following text.  
  
DO NOT USE WATER for fire extinguishing.
- 5.2 Special hazards arising from the substance or mixture**  
DANGER: Extremely flammable (GHS regulation). Forms highly explosive vapour-air mixtures. ---
- 5.3 Advice for firefighters**  
No, for listed product. The substance is extremely flammable. Product package burns like paper or plastic. Cool any undamaged containers in water, and remove from the danger zone if possible. Heating will lead to an increase in pressure, and a danger of bursting.
- 5.4 Additional information**  
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## SECTION 6: Accidental release measures

- 6.1 Personal precautions, protective equipment and emergency procedures**  
Wear suitable protective gloves (see 8.2.2). Wear eye protection. Keep product away from sources of ignition - No smoking. Regular staff training is necessary, indicating hazards and precautions on the basis of operating instructions. Restrictions on activity must be observed.
- 6.2 Environmental precautions**  
not necessary, contains only small amounts of these substances
- 6.3 Methods and material for containment and cleaning up**  
And dispose in accordance to local regulations for the disposal of hazardous chemicals. Clean any contaminated equipment and floors with plenty of water. Not for organic solvents (see section 13).
- 6.4 Reference to other sections**  
---

## SECTION 7: Handling and storage

- 7.1 Precautions for safe handling**  
Handling in accordance with the test instruction, that comes with the product. Use only in well-ventilated working areas.
- 7.2 Conditions for safe storage, including any incompatibilities**  
The original product package of MACHEREY-NAGEL allows a safe storage. Classification into storage class A.  
Storage class (VCI): 3  
Water hazard class (DE): 1
- 7.2.1 Requirements for stock rooms and containers**  
Keep original product packages tightly closed during handling and storage, and store in a well-ventilated place at max. 25 °C, away or preferably separate from substances with which a hazardous reaction could take place. Use inbreakable container for transport of glass bottles.

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## 7.3 Specific end use(s)

Product for analytical use.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### 1 mL MN OPTIMA test mixture in n-pentane

Chemical: *n-pentane*

CAS No.: 109-66-0

DNEL: 3000<sub>inh</sub> mg/m<sup>3</sup>  
DNEL = Derived No-Effect Level (for workers)

PNEC<sub>(fresh water)</sub>: 0.23 mg/L  
PNEC = Predicted No Effect Concentration

EU value: 1000 ppm / 3000 mg/m<sup>3</sup>

TRGS 900 (DE): 1000 ppm / 3000 mg/m<sup>3</sup>  
E/e respirable

Short-term exposure factor: 2 (II), Y  
skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded

SUVA(CH) MAK value: 600 ppm / 1800 mg/m<sup>3</sup>

Chemical: *test chemical(s) (ppm)*

CAS No.: -

### 8.2 Exposure controls

The highest level of cleanliness must be maintained at the workplace.

#### 8.2.1 Respiratory protection

No additional recommendations.

#### 8.2.2 Hand protection

Yes, gloves according EN 374 (permeation time >30 min - level 2), consist of PVC (f.ex. from Ansell or KCL).

#### 8.2.3 Eye protection

Yes, safety glasses according EN 166 with integrated side shields or wrap-around protection.

#### 8.2.4 Skin protection

Recommended to avoid contamination with these hazards.

#### 8.2.5 Personal hygiene

Eating, drinking, smoking, taking snuff and storage of food in work areas and at outdoor workplaces is prohibited. Avoid contact with the skin, eyes and clothing. Rinse any clothing on which the substance has been spilled, and soak it in water. Wash hands thoroughly with soap and water when stopping work and before eating, and then apply protective skin cream.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### 1 mL MN OPTIMA test mixture in n-pentane

Appearance: liquid

Colour: colourless

Odor: organic

Odor limit: 6.6-3000 mg/m<sup>3</sup>

Melting point: -130 °C

Boiling point: 36 °C

Flash point: -49 °C

Evaporation rate<sub>(ether=1)</sub>: <1

Explosion limits: 1.3-7.8 Vol%

Vapour pressure (20°C): 573 hPa

Vapour density<sub>(air=1)</sub>: 2,49

Specific gravity: 0,63 g/cm<sup>3</sup>

Solubility in water: 0 %

Flashing temperature: 260 °C

Volatiles by volume: 1675 g/m<sup>3</sup>

### 9.2 Other information

#### Relevant Properties of Substance Group

Substances are very volatile and form flammable vapour-air mixtures. ---

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

no further data available.

### 10.2 Chemical stability

No known instability.

### 10.3 Possibility of hazardous reactions

But avoid reactions with oxidizing agents. No further data available.

### 10.4 Conditions to avoid

Not necessary. But can form explosive gases/vapour with air. Use only in a well-ventilated working areas. ---

### 10.5 Incompatible materials

Avoid storage with oxidising substances.

### 10.6 Hazardous decomposition products

In the original package all parts/all reagents are safety and separated stored. Decompositions are not observed during the expiration period under recommended conditions.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

Following information is valid for pure substances.

#### 1 mL MN OPTIMA test mixture in n-pentane

Chemical:	<i>n-pentane</i>	CAS No.: 109-66-0
TSCA Inventory:	listed	
Japan CSCL/PRTR:	not listed, Japan PDSCCL: not listed	
Japan ISHL:	listed $\geq 1,0\%$ / $\geq 1,0\%$	
Korea Exist.Chem.Inventory:	KE-27968	
LD50 <sub>orl rat</sub> :	>2000 mg/kg	
LC50 <sub>ihl rat</sub> :	364 <sub>4h</sub> mg/m <sup>3</sup>	
LD50 <sub>drm rat</sub> :	>2000 mg/kg	
TRGS 905 (DE):	R <sub>F</sub> C	

Chemical:	<i>test chemical(s) (ppm)</i>	CAS No.: -
TSCA Inventory:	all <0.1%	

## SECTION 12: Ecological information

### 12.1 Toxicity

Following information is valid for pure substances.

#### 1 mL MN OPTIMA test mixture in n-pentane

Chemical:	<i>n-pentane</i>	CAS No.: 109-66-0
Toxic to aquatic life with long lasting effects. Avoid contact of substance/mixture to environment.		
Environmental hazards must not be labelled with H and P phrases until 125 mL (EU 1272/2008 Annex I - 1.5.2).		
PNEC (fresh water):	0.23 mg/L	
PNEC = Predicted No Effect Concentration		
Water hazard class (DE):	1	WGK No.: 0452
Storage class (VCI):	3	

Chemical:	<i>test chemical(s) (ppm)</i>	CAS No.: -
Storage class (VCI):	12	

### 12.2 Persistence and degradability

not necessary

### 12.3 Bioaccumulative potential

not necessary

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## 12.4 Mobility in soil

not necessary

## 12.5 Results of PBT and vPvB assessment

no data available

## 12.6 Other adverse effects

no additional data available

## SECTION 13: Disposal considerations

Please observe local regulations for collection and disposal of hazardous waste and contact waste disposal company, where you will obtain information on laboratory waste disposal (waste code number 16 05 06). Or collect in solvent waste (waste code number 07 07 04). Close container tightly.

### 13.1 Waste treatment methods

## SECTION 14: Transport information

14.1 - 14.4: No dangerous goods according the transport regulations because  
**De Minimis** (excepted quantities:  $\leq 1 \text{ mL} / \sum \leq 100 \text{ mL}$ ) = ADR 3.5.1.4  
**De Minimis** (excepted quantities:  $\leq 1 \text{ mL} / \sum \leq 100 \text{ mL}$ ) = IATA DRG 2.6.10

### 14.5 Environmental hazards

none, contains only small amounts of these substances

### 14.6 Special precautions for user

not necessary

### 14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

not applicable

## SECTION 15: Regulatory information

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

German act governing protection from hazardous substances (Chemicals Act / Chemikaliengesetz- ChemG), revised on August 2013  
 German order governing protection from hazardous substances (Ordinance on Hazardous Substances / Gefahrstoffverordnung - GefStoffV), revised on November 2010, according to Directive 98/24/EC  
 TRGS 200, German engineering rules governing the classification and labelling of hazardous substances, preparations and products, updated October 2011  
 MN Leaflet/User manual, also see [www.mn-net.com](http://www.mn-net.com)  
 Look for your country-specific regulations.

### 15.2 Chemical safety assessment

not necessary for these small amounts ---

## SECTION 16: Other information

### 16.1 List of H and P phrases

#### 16.1.1 List of relevant H phrases

H224	Extremely flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H336	May cause drowsiness or dizziness.
H411	Toxic to aquatic life with long lasting effects.
EUH066	Repeated exposure may cause skin dryness or cracking.

#### 16.1.2 List of relevant P phrases

P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P233	Keep container tightly closed.
P260D	Do not breathe vapours.
P273	Avoid release to the environment.
P301+310	IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
P331	Do NOT induce vomiting.

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**16.2 Training advice**

Multiple safety training of staffs about danger and protection by using hazards in working area. Additionally training and introduction of staffs for using these products.

**16.3 Recommended restriction on use**

Only for professional user.  
 Look about employee restrictions for young people (f. ex. 94/33/EC or DE § 22 JArbSchG)!  
 Look about employee restrictions for pregnant women and nursing women (f.ex. 92/85/EEC or for DE §§ 11-13 MuSchG 2017)!  
 An individual package of this product or test kit has a moderate hazardous potential.

**16.4 Further information**

MACHEREY-NAGEL GmbH & Co. KG provides the information contained herein in good faith being up-to-date of own realizations at revision time. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgement in determining its appropriateness for a particular purpose.  
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**16.5 Sources of key data**

Regulation 453/2010/EU REACH - REQUIREMENTS FOR THE COMPILATION OF SAFETY DATA SHEETS  
 Regulation 487/2013/EU, 4<sup>th</sup> adaptation of CLP regulation to technical and scientific progress  
 Regulation 669/2018/EU, 4<sup>th</sup> adaptation of CLP regulation to technical and scientific progress  
 TRGS 900, German engineering rules governing limits in air at work, updated 03/2018  
 SUVA .CH, Limits in air at work 2009, revised on 01.2009  
 Directive 1999/92/EC Minimum requirements for improving the safety and health protection of workers at risk from potentially explosive atmospheres  
 KÜHN, BIRETT Merkblätter Gefährliche Arbeitsstoffe (Data Sheets of Hazardous Substances)

**Revisions/Updates**

*Reason for Revision: 2016-03 Adaptation of regulation 1221/2015/EU*

