

# OTTO CHEMIE PVT LTD

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ISO 9001: 2015

## MATERIAL SAFETY DATA SHEET

### 1. Identification

1.1 GHS Product identifier

Pentane, 99%

Code P 1405

### SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Flammable liquids (Category 2), H225

Specific target organ toxicity - single exposure (Category 3), Central nervous system, H336

Aspiration hazard (Category 1), H304

Long-term (chronic) aquatic hazard (Category 2), H411

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Signal Word Danger

Hazard statement(s)

H225 Highly flammable liquid and vapor.

H304 May be fatal if swallowed and enters airways.

H336 May cause drowsiness or dizziness.

H411 Toxic to aquatic life with long lasting effects.

Precautionary statement(s)

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

P273 Avoid release to the environment.

P301 + P310 + P331 IF SWALLOWED: Immediately call a POISON CENTER/doctor. Do NOT induce vomiting.

Supplemental Hazard information (EU)

EUH066 Repeated exposure may cause skin dryness or cracking

Reduced Labeling (<= 125 ml)

Pictogram

Signal Word Danger

Hazard statement(s)

H304 May be fatal if swallowed and enters airways.

Precautionary statement(s)

P301 + P310 + P331 IF SWALLOWED: Immediately call a POISON CENTER/doctor. Do NOT induce vomiting.

Supplemental Hazard information (EU)

EUH066 Repeated exposure may cause skin dryness or cracking.

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

### SECTION 3: Composition/information on ingredients

3.1 Substances

Formula : C5H12

Molecular weight : 72,15 g/mol

CAS-No. : 109-66-0

EC-No. : 203-692-4

Index-No. : 601-006-00-1

Component

pentane

CAS-No. 109-66-0

EC-No. 203-692-4

Index-No. 601-006-00-1

Classification

Flam. Liq. 2; STOT SE 3;

Asp. Tox. 1; Aquatic

Chronic 2; H225, H336,

H304, H411

Concentration limits

20 %: STOT SE 3, H336;

Concentration

<= 100 %

## **SECTION 4: First aid measures**

### 4.1 Description of first-aid measures

#### General advice

Consult a physician. Show this material safety data sheet to the doctor in attendance.

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration.

Consult a physician.

#### In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

#### In case of eye contact

Flush eyes with water as a precaution.

#### If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

### 4.3 Indication of any immediate medical attention and special treatment needed

No data available

## **SECTION 5: Firefighting measures**

### 5.1 Extinguishing media

Suitable extinguishing media

Dry powder Dry sand

Unsuitable extinguishing media

Do NOT use water jet.

### 5.2 Special hazards arising from the substance or mixture

Carbon oxides

Combustible.

### 5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

### 5.4 Further information

Use water spray to cool unopened containers.

## **SECTION 6: Accidental release measures**

### 6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas. For personal protection see section 8.

### 6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Discharge into the environment must be avoided.

### 6.3 Methods and materials for containment and cleaning up

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

### 6.4 Reference to other sections

For disposal see section 13.

## **SECTION 7: Handling and storage**

### 7.1 Precautions for safe handling

#### Advice on safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapor or mist.

#### Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

#### Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

For precautions see section 2.2.

### 7.2 Conditions for safe storage, including any incompatibilities

#### Storage conditions

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Store in cool place. Refrigerate before opening.

#### Storage class

Storage class (TRGS 510): 3: Flammable liquids

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

## **SECTION 8: Exposure controls/personal protection**

### 8.1 Control parameters

Ingredients with workplace control parameters

### 8.2 Exposure controls

Personal protective equipment

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0,4 mm

Break through time: 480 min

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0,4 mm

Break through time: 480 min

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the EC approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a fullface respirator with multi-purpose combination (US) or type AXBEK (EN 14387)

respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Discharge into the environment must be avoided.

## **SECTION 9: Physical and chemical properties**

### 9.1 Information on basic physical and chemical properties

a) Physical state clear, liquid

b) Color colorless

c) Odor benzine-like

d) Melting

point/freezing point

Melting point/range: -130 °C - lit.

e) Initial boiling point

and boiling range

35 - 36 °C - lit.

f) Flammability (solid, gas)

No data available

g) Upper/lower

flammability or

explosive limits

Upper explosion limit: 8 %(V)

Lower explosion limit: 1,4 %(V)

h) Flash point -40 °C

i) Autoignition

temperature 260,0 °C

j) Decomposition

temperature

No data available

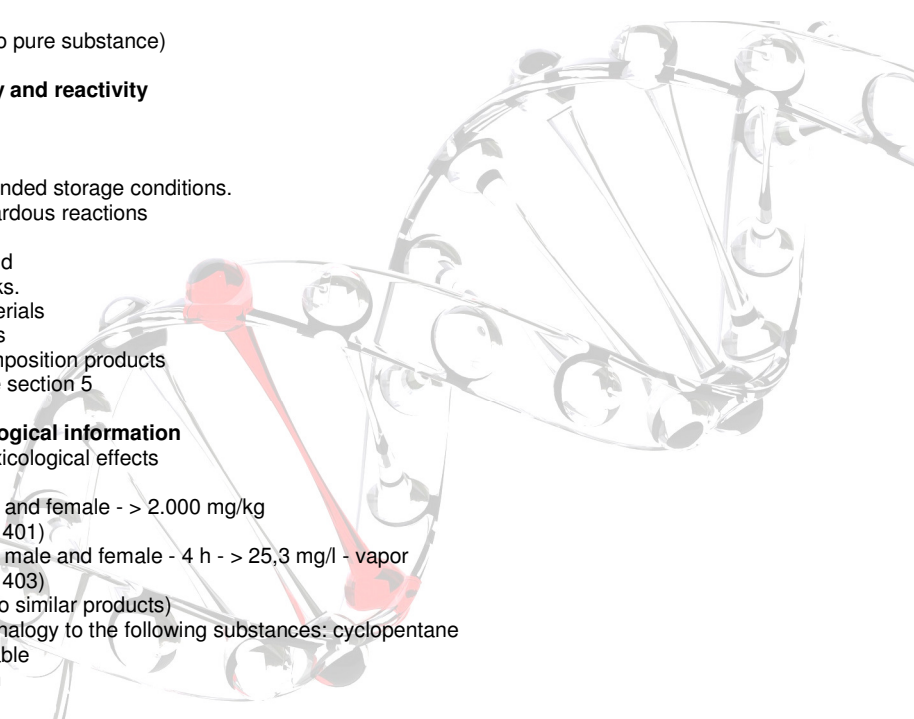
k) pH No data available  
l) Viscosity Viscosity, kinematic: No data available  
Viscosity, dynamic: No data available  
m) Water solubility 0,038 g/l at 20 °C - partly soluble  
n) Partition coefficient:  
n-octanol/water  
log Pow: 3,45 at 25 °C - Bioaccumulation is not expected.  
o) Vapor pressure 585,9 hPa at 21,13 °C  
p) Density 0,626 g/cm<sup>3</sup> at 25 °C - lit.  
Relative density No data available  
q) Relative vapor density  
No data available  
r) Particle  
characteristics  
No data available  
s) Explosive properties No data available  
t) Oxidizing properties none  
9.2 Other safety information  
Surface tension ca. 15,49 mN/m at 25 °C  
Relative vapor  
Density 2,49 - (refers to pure substance)

## SECTION 10: Stability and reactivity

10.1 Reactivity  
No data available  
10.2 Chemical stability  
Stable under recommended storage conditions.  
10.3 Possibility of hazardous reactions  
No data available  
10.4 Conditions to avoid  
Heat, flames and sparks.  
10.5 Incompatible materials  
Strong oxidizing agents  
10.6 Hazardous decomposition products  
In the event of fire: see section 5

## SECTION 11: Toxicological information

11.1 Information on toxicological effects  
Acute toxicity  
LD<sub>50</sub> Oral - Rat - male and female - > 2.000 mg/kg  
(OECD Test Guideline 401)  
LC<sub>50</sub> Inhalation - Rat - male and female - 4 h - > 25,3 mg/l - vapor  
(OECD Test Guideline 403)  
Remarks: (in analogy to similar products)  
The value is given in analogy to the following substances: cyclopentane  
Dermal: No data available  
Skin corrosion/irritation  
Skin - Rabbit  
Result: No skin irritation - 4 h  
(OECD Test Guideline 404)  
Serious eye damage/eye irritation  
Eyes - Rabbit  
Result: No eye irritation  
(OECD Test Guideline 405)  
Respiratory or skin sensitization  
Buehler Test - Guinea pig  
Result: negative  
(OECD Test Guideline 406)  
Germ cell mutagenicity  
Test Type: Mutagenicity (mammal cell test): chromosome aberration.  
Test system: Chinese hamster ovary cells  
Metabolic activation: with and without metabolic activation  
Method: Regulation (EC) No. 440/2008, Annex, B.10  
Result: negative  
Test Type: Ames test  
Test system: Salmonella typhimurium  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 471  
Result: negative  
Test Type: In vivo micronucleus test



Species: Rat  
Cell type: Bone marrow  
Application Route: inhalation (vapor)  
Method: Mutagenicity (micronucleus test)  
Result: negative  
Carcinogenicity  
No data available  
Reproductive toxicity  
No data available  
Specific target organ toxicity - single exposure  
May cause drowsiness or dizziness. - Central nervous system  
Specific target organ toxicity - repeated exposure  
No data available  
Aspiration hazard  
May be fatal if swallowed and enters airways.  
Aspiration hazard, Aspiration may cause pulmonary edema and pneumonitis.

#### 11.2 Additional Information

Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.  
RTECS: RZ9450000

Contact with eyes can cause: Redness, Blurred vision, Provokes tears., Prolonged or repeated contact with skin may cause: defatting, Dermatitis, Central nervous system depression, Damage to the lungs.

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Stomach - Irregularities - Based on Human Evidence

### SECTION 12: Ecological information

#### 12.1 Toxicity

Toxicity to fish static test LC50 - *Oncorhynchus mykiss* (rainbow trout) - 4,26 mg/l - 96 h

(OECD Test Guideline 203)

Toxicity to daphnia and other aquatic invertebrates

static test EC50 - *Daphnia magna* (Water flea) - 2,7 mg/l - 48 h

Remarks: (ECHA)

Toxicity to algae static test ErC50 - *Selenastrum capricornutum* (green algae) - 10,7 mg/l - 72 h

(OECD Test Guideline 201)

static test NOEC - *Selenastrum capricornutum* (green algae) - 7,51 mg/l - 72 h

(OECD Test Guideline 201)

#### 12.2 Persistence and degradability

Biodegradability aerobic - Exposure time 28 d

Result: 87 % - Readily biodegradable.

(OECD Test Guideline 301F)

#### 12.3 Bioaccumulative potential

No data available

#### 12.4 Mobility in soil

No data available

#### 12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

#### 12.6 Endocrine disrupting properties Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

#### 12.7 Other adverse effects

Toxic to aquatic life with long lasting effects.

Avoid release to the environment. Do not empty into drains.



### **SECTION 13: Disposal considerations**

#### 13.1 Waste treatment methods

##### Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

##### Contaminated packaging

Dispose of as unused product

### **SECTION 14: Transport information**

#### 14.1 UN number

ADR/RID: 1265 IMDG: 1265 IATA: 1265

#### 14.2 UN proper shipping name

ADR/RID: PENTANES

IMDG: PENTANES

IATA: Pentanes

#### 14.3 Transport hazard class(es)

ADR/RID: 3 IMDG: 3 IATA: 3

#### 14.4 Packaging group

ADR/RID: II IMDG: II IATA: II

#### 14.5 Environmental hazards

ADR/RID: yes IMDG Marine pollutant: yes IATA: no

#### 14.6 Special precautions for user

Tunnel restriction code : (D/E)

Further information : No data available

### **SECTION 15: Regulatory information**

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

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

##### National legislation

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

: ENVIRONMENTAL HAZARDS

: FLAMMABLE LIQUIDS

#### 15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

### **Section 16: Other Information**

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.