

# OTTO CHEMIE PVT LTD

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ISO 9001: 2015

## MATERIAL SAFETY DATA SHEET

### 1. Identification

#### 1.1 GHS Product identifier

Furfural, 98%

Code F 1568

### 2. Hazard identification

#### 2.1 Classification of the substance or mixture

Acute toxicity - Oral, Category 3

Acute toxicity - Dermal, Category 4

Skin irritation, Category 2

Eye irritation, Category 2

Acute toxicity - Inhalation, Category 3

Specific target organ toxicity \u2013 single exposure, Category 3

Carcinogenicity, Category 2

#### 2.2 GHS label elements, including precautionary statements

Pictogram(s)



Signal word

Hazard statement(s)

Danger

H301 Toxic if swallowed

H312 Harmful in contact with skin

H315 Causes skin irritation

H319 Causes serious eye irritation

H331 Toxic if inhaled

H335 May cause respiratory irritation

H351 Suspected of causing cancer

Precautionary statement(s)

Prevention

P264 Wash ... thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P271 Use only outdoors or in a well-ventilated area.

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

Response

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor/\u2013

P321 Specific treatment (see ... on this label).

P330 Rinse mouth.

P302+P352 IF ON SKIN: Wash with plenty of water/...

P312 Call a POISON CENTER/doctor/\u2013 if you feel unwell.

P362+P364 Take off contaminated clothing and wash it before reuse.

P332+P313 If skin irritation occurs: Get medical advice/attention.

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

P337+P313 If eye irritation persists: Get medical advice/attention.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P311 Call a POISON CENTER/doctor/\u2013

P308+P313 IF exposed or concerned: Get medical advice/attention.

Storage

P405 Store locked up.

P403+P233 Store in a well-ventilated place. Keep container tightly

closed.  
Disposal P501 Dispose of contents/container to ...  
2.3 Other hazards which do not result in classification  
none

### 3. Composition/information on ingredients

#### 3.1 Substances

Chemical name	Common names and synonyms	CAS number	EC number	Concentration
furfural	furfural	98-01-1	none	100%

#### 4. First-aid measures

##### 4.1 Description of necessary first-aid measures

###### General advice

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

###### If inhaled

Fresh air, rest. Refer for medical attention. See Notes.

###### In case of skin contact

Remove contaminated clothes. Rinse skin with plenty of water or shower. Seek medical attention if you feel unwell.

###### In case of eye contact

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

###### If swallowed

Rinse mouth. Refer for medical attention.

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

Vapor may irritate eyes and respiratory system. Liquid irritates skin and may cause dermatitis. (USCG, 1999)

##### 4.3 Indication of immediate medical attention and special treatment needed, if necessary

Basic treatment: Establish a patent airway. Suction if necessary. Watch for signs of respiratory insufficiency and assist ventilations if necessary. Aggressive airway management may be necessary. Administer oxygen by nonrebreather mask at 10 to 15 L/min.

Anticipate seizures and treat if necessary ... Monitor for shock and treat if necessary ... Monitor for pulmonary edema and treat if necessary ...

For eye contamination, flush eyes immediately with water. Irrigate each eye continuously with normal saline during transport ... Do not use emetics. For ingestion, rinse mouth and administer 5 m1/kg up to 200 ml of water for dilution if the patient can swallow, has a strong gag reflex, and does not drool. Administer activated charcoal ... /Aldehydes and Related Compounds/

#### 5. Fire-fighting measures

##### 5.1 Extinguishing media

###### Suitable extinguishing media

Use water spray, dry chemical, "alcohol resistant" form, or carbon dioxide. use water spray to keep fire-exposed containers cool.

##### 5.2 Specific hazards arising from the chemical

Special Hazards of Combustion Products: Irritating vapors are generated when heated (USCG, 1999)

##### 5.3 Special protective actions for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

#### 6. Accidental release measures

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

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation.

Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

##### 6.2 Environmental precautions

Personal protection: filter respirator for organic gases and particulates adapted to the airborne concentration of the substance. Do NOT let this chemical enter the environment. Collect leaking liquid in sealable containers. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations.

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

1. Remove all ignition sources. 2. Ventilate area of spill or leak. 3. For small quantities, absorb on paper towels. Evaporate in a safe place ... Allow sufficient time for evaporating vapors to completely clear the hood ductwork. Burn the paper in a suitable location away from combustible materials. For large quantities, cover with sodium bisulfite, add a small amt of water & mix. ... After 1 hr, flush with large amt of water & wash site with soap solution.

#### 7. Handling and storage

##### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Avoid exposure - obtain special instructions before use. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

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

Separated from strong bases, strong acids, strong oxidants and food and feedstuffs. Keep in the dark. Well closed. Ventilation along the floor. Store in an area without drain or sewer access. Keep in air tight container and protect from light

#### 8. Exposure controls/personal protection

##### 8.1 Control parameters

###### Occupational Exposure limit values

After reviewing available literature, NIOSH provided comments to OSHA on August 1, 1988, regarding the "Proposed Rule on Air Contaminants" (29 CFR 1910, Docket No. H-020). In these comments, NIOSH questioned whether the PELs proposed for furfural (TWA 2 ppm (skin)) were adequate to protect workers from recognized health hazards.

###### Biological limit values

no data available

#### 8.2 Appropriate engineering controls

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

#### 8.3 Individual protection measures, such as personal protective equipment (PPE)

##### Eye/face protection

Safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

##### Skin protection

Wear impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. 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 EU Directive 89/686/EEC and the standard EN 374 derived from it.

##### Respiratory protection

Wear dust mask when handling large quantities.

##### Thermal hazards

no data available

### 9. Physical and chemical properties

#### Physical state

colorless to reddish-brown oily liquid with almond odour

#### Colour

Colorless, oily liquid ... Turns yellow to brown on exposure to air and light and resinifies

#### Odour

Peculiar odor, somewhat resembling the odor of benzaldehyde

#### Melting point/ freezing point

-37.00°C (lit.)

#### Boiling point or initial boiling

160.00°C

#### point and boiling range

#### Flammability

Class IIIA Combustible Liquid: Fl.P. at or above 60.00°C and below 93.33°C. Flammable.

#### Lower and upper explosion

Lower flammable limit: 2.1% by volume; Upper flammable limit:

#### limit / flammability limit

19.3% by volume

#### Flash point

59.00°C (lit.)

#### Auto-ignition temperature

392.78°C (USCG, 1999)

#### Decomposition temperature

no data available

#### pH

no data available

#### Kinematic viscosity

1.587 mPa·s at 25.00°C

#### Solubility

In water: 8.3 g/100 mL

#### Partition coefficient n-octanol/water (log value)

log Kow= 0.41

#### Vapour pressure

13.5 mm Hg ( 55.00°C)

#### Density and/or relative

1.16

#### density

#### Relative vapour density

3.31 (vs air)

#### Particle characteristics

no data available

### 10. Stability and reactivity

#### 10.1 Reactivity

no data available

#### 10.2 Chemical stability

Turns yellow to brown on exposure to air and light and resinifies

#### 10.3 Possibility of hazardous reactions

Flammability of furfural is comparable to that of kerosene or No 1 fuel oil. FURFURAL reacts with sodium hydrogen carbonate. It also can react with strong oxidizers. An exothermic resinification of almost explosive violence can occur upon contact with strong mineral acids or alkalis. It forms condensation products with many types of compounds, including phenol, amines and urea. .

#### 10.4 Conditions to avoid

no data available

#### 10.5 Incompatible materials

... Can react with oxidizing materials.

#### 10.6 Hazardous decomposition products

When heated to decomposition it emits acrid smoke and irritating fumes.

### 11. Toxicological information

#### Acute toxicity

Oral: LD50 Rats oral 127 mg/kg

Inhalation: LC50 Rat inhalation 756 mg/cu m (189 ppm) /1 hour

Dermal: no data available

#### Skin corrosion/irritation

no data available

#### Serious eye damage/irritation

no data available

#### Respiratory or skin sensitization



## 15.Regulatory information

### 15.1 Safety, health and environmental regulations specific for the product in question

Chemical name	Common names and synonyms	CAS number	EC number
furfural	furfural	98-01-1	none
European Inventory of Existing Commercial Chemical Substances (EINECS)			Listed.
EC Inventory			Listed.
United States Toxic Substances Control Act (TSCA) Inventory			Listed.
China Catalog of Hazardous chemicals 2015			Listed.
New Zealand Inventory of Chemicals (NZIoC)			Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)			Listed.
Vietnam National Chemical Inventory			Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)			Listed.

### 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.

