

2 - Methylfuran - HP

Date of first version: 2022-09-27

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

1.1 Product identifier

| | |
|-----------------------|---------------------------------|
| Product name | 2-Methylfuran - HP |
| Chemical name | 2-Methylfuran - HP |
| Synonyms | none |
| Formula | C ₅ H ₆ O |
| Molecular mass | 82,10 g/mol |
| CAS-N°. | 534-22-5 |
| EC-N°. | 208-594-5 |
| ▶ Registration number | 01-2120773938-33-0001 |

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

Relevant identified uses of the substance or mixture

Industrial use: transported isolated intermediate

Use advised against

No uses advised against known

1.3 Details of the supplier of the safety data sheet

| | |
|------------------|---|
| Supplier | International Furan Chemicals B.V. |
| Address | Rotterdam Airportplein 33, 3045 AP Rotterdam, The Netherlands |
| Telephone number | +31 10 238 05 55 |
| E-mail address | sales@furan.com |

1.4 Emergency telephone numbers

+32(0)14 58 45 45 (24 h/24 h)

Information centre on dangerous goods (BIG) (NL, FR, GB, DE)
Technische Schoolstraat 43 A, B-2440 Geel, Belgium

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

According to Regulation (EC) No.1272/2008 (EU-GHS/CLP)

Hazard Class(es) / Hazard Class and Category Code(s)

| | |
|--------------------------------|--|
| Flammable liquid | Flam. Liquid. 2, H225 |
| Acute toxicity | Acute Tox. 4 (dermal) H312 |
| Acute toxicity | Acute Tox. 3 (inhalation, oral) H301, H331 |
| Skin irritation | Skin Irrit. 2, H315 |
| Eye irritation | Eye Irrit. 2, H319 |
| Specific target organ toxicity | STOT RE 2, H373 |

2.2 Label elements

According to Regulation (EC) No.1272/2008 (EU-GHS/CLP)

Hazard pictogram(s)



Signal word

Danger

Hazard statement(s)

| | |
|------|------------------------------------|
| H225 | Highly flammable liquid and vapour |
| H301 | Toxic if swallowed |
| H331 | Toxic if inhaled |
| H312 | Harmful in contact with skin |
| H315 | Causes skin irritation |
| H319 | Causes serious eye irritation |

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H373 May cause damage to organs through prolonged or repeated exposure

Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P311 Call a POISON CENTER/physician.
P403+P233 Store in a well ventilated place. Keep container tightly closed.

2.3 Other hazards

- PBT and/or vPvB: no
- Endocrine disruptor properties: not identified to have endocrine disrupting properties according to Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 nor is included in the Candidate List of substances of very high concern according to EU REACH Article 59 for having endocrine disrupting properties.

SECTION 3: Composition/information on ingredients

3.1 Substances

| Main constituent | Identity | | Percentage |
|------------------|--------------------------------------|--|------------|
| 2-Methylfuran | CAS-N°: 534-22-5 EC N°: 208-594-5 | | >99 % |

SECTION 4: First aid measures

4.1 Description of first aid measures

Inhalation Remove victim into fresh air. Unconscious: maintain adequate airway and respiration. Consult a doctor/medical service if breathing problems develop.
Skin contact Rinse with water. Soap may be used. Remove contaminated clothes before washing. Consult a doctor/medical service if irritation persists.
Eye contact First rinse with plenty of water (remove lenses if possible). If eye irritation persists: Get medical advice / attention. Do not apply neutralizing agents.
Ingestion Never give water to an unconscious person. Do not induce vomiting. Consult a doctor/medical service if you feel unwell.

4.2 Most important symptoms and effects, both acute and delayed

Acute Symptoms and effects

After inhalation: After exposure to high concentration: Headache, dizziness, suffocation, respiratory tract irritation.
After ingestion: risk of aspiration pneumonia, nausea, vomiting, digestive tract irritation
After skin contact: dry skin
After eye contact: redness of the eye tissue. Slight irritation.

Delayed symptoms and effects

No information available.

4.3 Indication of any immediate medical attention and special treatment needed

Not applicable.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Alcohol-resistant foam, BC powder, carbon dioxide.

Unsuitable extinguishing media

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Water may be ineffective. Water may spread fire
Solid water jet ineffective as extinguishing medium

5.2 Special hazards arising from the substance or mixture

Hazardous combustion product

Gas/vapour spreads at floor level: ignition hazard.
Gas/vapour flammable with air within explosion limits
Upon combustion CO and CO₂ are formed.

Additional Hazards

Not applicable.

5.3 Advice for firefighters

Protective Actions

Cool tanks/drums with water spray/remove them into safety.
Dilute toxic gases with water spray.
Do not move the load if exposed to heat.

Special Protective Equipment

Heat/fire exposure: compressed air/oxygen apparatus
Large spill/in enclosed spaces: compressed air apparatus.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

High gas/vapour concentration: compressed air/oxygen apparatus
Gas mask with filter type AX.
Gloves (Natural Rubber, Viton)
Protective goggles
Head/skin protection
Heatproof clothing (Butyl Rubber, Viton)

6.2 Environmental precautions

Prevent spreading in sewers
Contain released substance, pump over in suitable containers
Plug the lead, cut off the supply
Dam up the spill liquid
Try to reduce evaporation.

6.3 Methods and material for containment and cleaning up

Advice on spillage containment

Damaged/cooled tanks must be emptied.
Do not use compressed air for pumping over spills.

Appropriate clean up procedures

Take up liquid spill into a non-combustible material e.g.: dry sand/earth/vermiculite.
Or kieselguhr.
Scoop absorbed substance into closing containers.
Carefully collect the spill/leftovers.
Take collected spill to manufacturer/competent authority.

Inappropriate containment or clean up techniques

None known.

6.4 Reference to other sections

See also the sections 8 and 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

This substance should be handled under strictly controlled conditions as specified in REACH regulation article 18(4).
Site documentation to support safe handling arrangements in accordance with risk-based management system should

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be available at each site. During the whole lifecycle all necessary measures should be undertaken to minimize emissions and any resulting exposure. Use product only in closed system.

Recommendations for safe handling

Reduce/avoid exposure and/or contact.
Use spark-/explosion proof appliances and lighting systems
Take precautions against electrostatic charges
Handle uncleaned empty containers as full ones.
Do not discharge the waste into the drain.

Advice on occupational hygiene

Do not eat, drink or smoke in work areas.

7.2 Conditions for safe storage, including any incompatibilities

Protection against incompatible substances

Keep container tightly closed.
Ventilation at floor level.
Provide a tub to collect spills.
Keep away from: heat sources, ignition sources, oxidizing agents, acids, bases, organic materials.

Protection against ambient influences

Store in a cool area.
Recommended storage temperature: 20 °C.

Maintenance on the integrity of the substance

Not required.

7.3 Specific end use(s)

Transported isolated intermediate

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Not listed.

DNEL/PNEC No data available.

8.2 Exposure controls

This substance should be handled under strictly controlled conditions as specified in REACH regulation article 18(4). Site documentation to support safe handling arrangements in accordance with risk-based management system should be available at each site. During the whole lifecycle all necessary measures should be undertaken to minimize emissions and any resulting exposure. Use product only in closed system.

8.2.1 Appropriate engineering controls

Ventilation and local exhaust.

8.2.2 Individual protection measures, such as personal protective

a) Eye/face protection

Protective goggles. (EN 166)

b) Skin protection

Hand protection

Gloves (EN374) Breakthrough time not determined

Body protection

Suitable material: butyl rubber, viton

Protective clothing.

Suitable material: butyl rubber, viton

c) Respiratory protection

High gas/vapour concentration: compressed air/oxygen apparatus

Gas mask with filter type AX (EN 14387)

d) Thermal hazards

Not applicable.

8.2.3 Environmental exposure controls

Direct polluted air of the local exhaust ventilation out of the plant in a manner in accordance with environmental regulations.

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SECTION 9: Physical and chemical properties

9.1

Information on basic physical and chemical properties

| | |
|--|---|
| Physical state | Liquid |
| Colour: | Colourless to pale yellow |
| Odour | Sweet/ether like |
| Melting point/freezing point | -88.7°C |
| Boiling point or initial boiling point and boiling range | 63.7°C |
| Flammability | Highly flammable. |
| Lower and upper explosion limit | N.D. |
| Flashpoint | -30°C (closed cup) |
| Auto-ignition temperature | N.D. |
| Decomposition temperature | N.D. |
| pH | N.D. |
| Kinematic viscosity (20°C) | N.D. |
| Solubility | Water: 3g/L, soluble in ethanol, ether. |
| Partition coefficient n-octanol/water (log value) | 1.85 |
| Vapour pressure (at 20°C) | 142 mmHg |
| Vapour pressure (at 50°C) | 480 mmHg |
| Density and/or relative density | 0.91 |
| Relative vapour density | 2.84 |
| Particle characteristics | Not applicable. |

9.2 Other information

9.2.1 Information with regard to physical hazard classes

Not classified

9.2.2 Other safety characteristics

| | |
|--------------------------|--|
| Saturation concentration | 623 g/m ³ |
| Viscosity (at 20°C) | 4 mPa.s |
| Explosive properties | Violent exothermic reaction with (strong oxidizers), reacts violently with (some) acids/bases |
| Oxidising properties | Unstabilized product reacts slowly on exposure to air: peroxidation resulting in increased fire or explosion risk. |

SECTION 10: Stability and reactivity

10.1 Reactivity

Not reactive.

10.2 Chemical stability

Stable under normal temperatures and pressures.

10.3 Possibility of hazardous reactions

Exothermic polymerization with explosive violence in the presence of (strong) acids.

10.4 Conditions to avoid

Keep away from: heat sources, ignition sources, oxidizing agents, acids, bases, organic materials.

10.5 Incompatible materials

Reacts violently with oxidants and strong acids (polymerization).

10.6 Hazardous decomposition products

Upon decomposition emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.

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SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

| | | |
|----|--|---|
| a) | Acute toxicity | |
| | LD50 (oral, rat) (mg/kg) | 133 |
| | LD50 (dermal, rabbit) (mg/kg) | 1600 (24 h) (percutaneous administration) |
| | LC50 (inhalation, rat, 4 hours) (vapour) | 2.48 mg/L |
| b) | Skin corrosion/irritation | Mild skin irritation. |
| c) | Serious eye damage/irritation | Mild eye irritation. |
| d) | Respiratory or skin sensitization | No data available |
| e) | Germ cell mutagenicity | Different studies in vitro and in vivo are available: substance should not be considered genotoxic/mutagenic. |
| f) | Carcinogenicity | No data available |
| g) | Reproductive toxicity | No data available |
| h) | STOT- single exposure | No data available |
| i) | STOT- repeated exposure | Centrilobular necrosis findings observed in a oral repeated dose toxicity study. |
| j) | Aspiration hazard | No data available |

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties
No endocrine disrupting properties identified.

11.2.2 Other information
Not applicable.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic compartment and sediment

| | |
|-------------------------------------|--|
| LC50 (fish, 48 hours) (mg/l) | Average 431.5 (average of 237 and 626) |
| EC50 (Daphnia, 24 hours) (mg/l) | 888 |
| NOEC (blue-green algae, 8 d) (mg/l) | 40 |

12.2 Persistence and degradability

Biodegradability Not readily biodegradable

12.3 Bioaccumulative potential

Partition coefficient: n-octanol water (log Kow) 1.85
(conc in organisms / conc. in water)

12.4 Mobility in soil

Adsorption coefficient (Koc) solid phase / liquid phase N.D.

12.5 Results of PBT and vPvB assessment N.D.

12.6 Endocrine disrupting properties

Adverse environmental effects of endocrine disruptors are not relevant (see subsection 2.3)

12.7 Other adverse effects

Water hazard class (WGK Germany) 1

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SECTION 13: Disposal considerations

13.1 Waste treatment methods Substance

European waste list (EURAL)

Waste Material code (Flanders)
Packaging/container

Recycling by distillation.
Removal to an authorized waste incinerator for solvents or as chemical waste in accordance with local regulations. Do not discharge wastewater into sewer.
07 01 04* (other organic solvents, washing liquids and mother liquors)
015; 034

15 01 10* (packaging containing residues of or contaminated by dangerous substances)

SECTION 14: Transport information

| |
|------|
| 33 |
| 2301 |

| | |
|--|---------------------------|
| 14.1 UN Number or ID number | UN2301 |
| 14.2 UN proper shipping name | 2-METHYLFURAN |
| 14.3 Transport hazard class(es) | 3 |
| 14.4 Packing group | II |
| 14.5 Environmental hazards | |
| Marine pollutant | - |
| Emergency Schedules IMDG | |
| - Fire schedule | Echo (F – E) |
| - Spillage schedule | Delta (S – D) |
| Hazard for tank vessels (ADN) | 3 |
| 14.6 Specials precautions for user | |
| Classification code (ADR/RID) | F1 |
| Label(s) (ADR/RID/ADN/IMDG/IATA) | 3 |
| Tunnel restriction code (ADR/RID) | (D/E) |
| Hazard Identification Number (ADR/RID) | 33 |
| Limited quantity (ADR/RID/ADN/IMDG/IATA) | 1L |
| Excepted quantity (ADR/RID/ADN/IMDG/IATA). | E2 |
| ICAO (air transport) | |
| - Packing instructions passenger aircraft | LQ: Y341 - 1L 353 – 5L |
| - Packing instructions cargo aircraft | 364 - 60L |
| 14.7 Maritime transport in bulk according to IMO instruments | |
| IMO Hazard class. | Class 3 Flammable liquids |

SECTION 15: Regulatory information

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

Not available.

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15.2 Chemical safety assessment

Not applicable.

SECTION 16: Other information

16.1 Changes to the previous version.

Reach registration number in section 1

► Indicates changes in content from previously issued version

Date of revision: 14-02-2025

Version: 002

Date of previous version: 27-09-2022

16.2 Abbreviations and acronyms

| | |
|-----------|--|
| EC50 | Effect Concentration, 50 percent |
| GHS / CLP | Globally Harmonised System / Classification, Labelling and Packaging |
| LC50 | Lethal Concentration, 50 percent |
| LD50 | Lethal Dose, 50 percent |
| PBT | Persistent, Bioaccumulative and Toxic |
| STOT | Single Target Organ Toxicity |
| vPvB | very Persistent and very Bioaccumulative |