

Safety data sheet

according to 1907/2006/EC, Article 31

Revision: 27.09.2011

Printing date 01.07.2013

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

1.1 Product identifier

Trade name

Furan

Stock number:

A13102

CAS Number:

110-00-9

EC number:

203-727-3

Index number:

603-105-00-5

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

Identified use:

SU24 Scientific research and development

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Alfa Aesar GmbH & Co.KG
A Johnson Matthey Company
Zeppelinstr. 7b
76185 Karlsruhe / Germany
Tel: +49 (0) 721 84007 280
Fax: +49 (0) 721 84007 300
Email: tech@alfa.com
www.alfa.com

Informing department:

Product safety Tel + +049 (0) 7275 988687-0

1.4 Emergency telephone number:

Carechem 24: +44 (0) 1235 239 670 (Multi-language emergency number)

Poison Information Center Mainz

www.giftinfo.uni-mainz.de Telephone: +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

Muta. 2 H341 Suspected of causing genetic defects.

Carc. 1B H350 May cause cancer.

STOT RE 2 H373 May cause damage to the peripheral nervous system, the lung, the kidneys, the liver, the heart, the blood tissue and the brain through prolonged or repeated exposure. Route of exposure: Oral, Inhalative.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Acute Tox. 4 H332 Harmful if inhaled.

Skin Irrit. 2 H315 Causes skin irritation.

Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC

T; Toxic

Carc. Cat. 2

R45: May cause cancer.

Xn; Harmful

R20/22-48/22-68: Harmful by inhalation and if swallowed. Harmful: danger of serious damage to health by prolonged exposure if swallowed. Possible risk of irreversible effects.

Xi; Irritant

R38: Irritating to skin.

F+; Extremely flammable

R12: Extremely flammable.

R19-52/53: May form explosive peroxides. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Muta. Cat. 3

Information concerning particular hazards

Not applicable

Other hazards that do not result in

classification

No information known.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

Hazard pictograms

Signal word

Hazard statements

The substance is classified and labelled according to the CLP regulation.

GHS02, GHS07, GHS08

Danger

H224 Extremely flammable liquid and vapour.

H302 Harmful if swallowed.

H332 Harmful if inhaled.

H315 Causes skin irritation.

H341 Suspected of causing genetic defects.

H350 May cause cancer.

H373 May cause damage to the peripheral nervous system, the lung, the kidneys, the liver, the heart, the blood tissue and the brain through prolonged or repeated exposure. Route of exposure: Oral, Inhalative.

H412 Harmful to aquatic life with long lasting effects.

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P241 Use explosion-proof electrical/ventilating/lighting/equipment.

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

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

P405 Store locked up.

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

EUH019 May form explosive peroxides.

Precautionary statements

Additional information:

2.3 Other hazards

Results of PBT and vPvB assessment

PBT:

Not applicable.

vPvB:

Not applicable.

DE/E

(Contd. on page 2)

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

Printing date 01.07.2013

Revision: 27.09.2011

Trade name **Furan**

(Contd. of page 1)

SECTION 3: Composition/information on ingredients

3.1 Substances
CAS# Designation: 110-00-9 Furan
Identification number(s):
EC number: 203-727-3
Index number: 603-105-00-5
Impurities and stabilising additives: Stabilised with:
 BHT (butylated hydroxytoluene) (CAS# 128-37-0)

SECTION 4: First aid measures

4.1 Description of first aid measures
After inhalation Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
After skin contact Seek immediate medical advice.
 Instantly wash with water and soap and rinse thoroughly.
After eye contact Seek immediate medical advice.
After swallowing Rinse opened eye for several minutes under running water. Then consult doctor.
4.2 Most important symptoms and effects, both acute and delayed Seek medical treatment.
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, sand, extinguishing powder. Do not use water.
5.2 Special hazards arising from the substance or mixture If this product is involved in a fire, the following can be released:
 Carbon monoxide and carbon dioxide
5.3 Advice for firefighters
Protective equipment: Wear self-contained breathing apparatus.
 Wear full protective suit.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures Wear protective equipment. Keep unprotected persons away.
 Ensure adequate ventilation
 Keep away from ignition sources
6.2 Environmental precautions: Do not allow material to be released to the environment without proper governmental permits.
 Do not allow product to reach sewage system or water bodies.
 Do not allow to enter the ground/soil.
6.3 Methods and material for containment and cleaning up: Keep away from ignition sources.
 Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
 Dispose of contaminated material as waste according to item 13.
 Ensure adequate ventilation.
 Keep away from ignition sources.
Prevention of secondary hazards: See Section 7 for information on safe handling
6.4 Reference to other sections See section 8 for information on personal protection equipment.
 See Section 13 for information on disposal.

SECTION 7: Handling and storage

7.1 Precautions for safe handling Handle under dry protective gas.
 Keep containers tightly sealed.
 Keep away from heat and direct sunlight.
 Ensure good ventilation/exhaustion at the workplace.
 Open and handle container with care.
Information about protection against explosions and fires: Protect against electrostatic charges.
 Fumes can combine with air to form an explosive mixture.
 Do not distill to dryness.
 Explosive peroxides may form, handle container cautiously.
7.2 Conditions for safe storage, including any incompatibilities
Storage
Requirements to be met by storerooms and containers: Refrigerate
Information about storage in one common storage facility: Store away from oxidizing agents.
 Store away from air.
 Store in the dark.
 Protect from heat.
Further information about storage conditions: Store under dry inert gas.
 This product is air sensitive.
 Protect from heat and direct sunlight.
 Protect from the effects of light.
 Avoid contact with air / oxygen (formation of peroxide).
 Store in a locked cabinet or with access restricted to technical experts or their assistants.
 Refrigerate
 Check container pressure periodically to prevent explosive peroxides.
7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

Additional information about design of technical systems: Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

8.1 Control parameters**Components with critical values that require monitoring at the workplace:**

110-00-9 Furan (100,0%)

WEEL (USA) | (W)

Additional information: No data(Contd. on page 3)
DE/E

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

Printing date 01.07.2013

Revision: 27.09.2011

Trade name **Furan**

(Contd. of page 2)

8.2 Exposure controls**Personal protective equipment****General protective and hygienic measures**

The usual precautionary measures should be adhered to in handling the chemicals.

Keep away from foodstuffs, beverages and food.

Instantly remove any soiled and impregnated garments.

Wash hands during breaks and at the end of the work.

Store protective clothing separately.

Avoid contact with the skin.

Avoid contact with the eyes and skin.

Maintain an ergonomically appropriate working environment.

Use breathing protection with high concentrations.

Check protective gloves prior to each use for their proper condition.

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.

Impervious gloves

Not determined

Safety glasses

Face protection

Protective work clothing.

Breathing equipment:**Protection of hands:****Material of gloves****Penetration time of glove material****Eye protection:****Body protection:****SECTION 9: Physical and chemical properties****9.1 Information on basic physical and chemical properties****General Information****Appearance:****Form:** Liquid**Colour:** Colourless**Smell:** Not determined**Odour threshold:** Not determined.**pH-value:** Not determined.**Change in condition****Melting point/Melting range:** -86 °C**Boiling point/Boiling range:** 32-33 °C**Sublimation temperature / start:** Not determined**Flash point:** -35 °C**Inflammability (solid, gaseous)** Not applicable.**Ignition temperature:** 390 °C**Decomposition temperature:** Not determined**Self-inflammability:** Not determined.**Danger of explosion:** May form explosive peroxides.

Do not distill to dryness.

Critical values for explosion:**Lower:** 2,3 Vol %**Upper:** 14,3 Vol %**Steam pressure at 20 °C:** 670 hPa**Density at 20 °C** 0,936 g/cm³**Relative density** Not determined.**Vapour density** Not determined.**Evaporation rate** Not determined.**Solubility in / Miscibility with****Water:** Not determined**Partition coefficient (n-octanol/water):** Not determined.**Viscosity:****dynamic:** Not determined.**kinematic:** Not determined.**9.2 Other information** No further relevant information available.**SECTION 10: Stability and reactivity****10.1 Reactivity****10.2 Chemical stability****Thermal decomposition / conditions to be****avoided:****10.3 Possibility of hazardous reactions****10.5 Incompatible materials:**

May form explosive peroxides.

Stable under recommended storage conditions.

No decomposition if used and stored according to specifications.

Forms peroxides

Air

Oxidizing agents

Heat

Light

Carbon monoxide and carbon dioxide

10.6 Hazardous decomposition products:**SECTION 11: Toxicological information****11.1 Information on toxicological effects****Acute toxicity:**

Harmful if inhaled.

Harmful if swallowed.

The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for components in this product.

LD/LC50 values that are relevant for classification:

No data

Causes skin irritation.

May cause irritation

No sensitizing effect known.

Suspected of causing genetic defects.

The Registry of Toxic Effects of Chemical Substances (RTECS) contains mutation data for components in this product.

Carcinogenicity:

May cause cancer.

IARC-2B: Possibly carcinogenic to humans: limited evidence in humans in the absence of sufficient evidence in experimental animals.

NTP-R: Reasonably anticipated to be a carcinogen: limited evidence from studies in humans or sufficient evidence from studies in experimental animals.

The Registry of Toxic Effects of Chemical Substances (RTECS) contains tumorigenic and/or carcinogenic and/or neoplastic data for this product.

Reproductive toxicity:

The Registry of Toxic Effects of Chemical Substances (RTECS) contains reproductive data for components in this product.

(Contd. on page 4)
DE/E

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 01.07.2013

Revision: 27.09.2011

Trade name **Furan**

(Contd. of page 3)

Specific target organ system toxicity - repeated exposure:

May cause damage to the peripheral nervous system, the lung, the kidneys, the liver, the heart, the blood tissue and the brain through prolonged or repeated exposure. Route of exposure: Oral, Inhalative.

Specific target organ system toxicity - single exposure:

No effects known.

Aspiration hazard:

No effects known.

Experience with humans:

The Registry of Toxic Effects of Chemical Substances (RTECS) contains multiple dose toxicity data for components in this product.

Additional toxicological information:

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

SECTION 12: Ecological information**12.1 Toxicity**

No further relevant information available.

Aquatic toxicity:

No further relevant information available.

12.2 Persistence and degradability

No further relevant information available.

12.3 Bioaccumulative potential

No further relevant information available.

12.4 Mobility in soil

No further relevant information available.

Ecotoxicological effects:

Harmful to aquatic organisms

Remark:

Do not allow material to be released to the environment without proper governmental permits.

Additional ecological information:

Water danger class 3 (Self-assessment): extremely hazardous for water.

Do not allow product to reach ground water, water bodies or sewage system, even in small quantities.

Danger to drinking water if even extremely small quantities leak into soil.

May cause long lasting harmful effects to aquatic life.

Avoid transfer into the environment.

Harmful to aquatic organisms

12.5 Results of PBT and vPvB assessment

Not applicable.

PBT:

Not applicable.

vPvB:

No further relevant information available.

12.6 Other adverse effects

No further relevant information available.

SECTION 13: Disposal considerations**13.1 Waste treatment methods**

Hand over to disposers of hazardous waste.

Recommendation

Must be specially treated under adherence to official regulations.

Consult state, local or national regulations for proper disposal.

Uncleaned packagings:

Disposal must be made according to official regulations.

Recommendation:**SECTION 14: Transport information****UN-Number**

UN2389

ADR, IMDG, IATA**14.2 UN proper shipping name**

2389 FURAN

ADR**IMDG, IATA**

FURAN

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

3 (F1) Flammable liquids.

Label

3

IMDG, IATA**Class**

3 Flammable liquids.

Label

3

Packing group

I

ADR, IMDG, IATA**14.5 Environmental hazards:**

Not applicable.

14.6 Special precautions for user

Warning: Flammable liquids.

Kemler Number:

33

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC

Not applicable.

Code**Transport/Additional information:****ADR****Excepted quantities (EQ):**

E3

Limited quantities (LQ)

0

Transport category

1

Tunnel restriction code

D/E

UN "Model Regulation":

UN2389, FURAN, 3, I

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****Australian Inventory of Chemical**

Substance is listed.

Substances

Substance is not listed.

Standard for the Uniform Scheduling of**Drugs and Poisons****National regulations****Information about limitation of use:**

Workers should not be exposed to this hazardous material. Exceptions can be made by the authorities in certain exceptional cases.

Employment restrictions concerning young persons must be observed.

For use only by technically qualified individuals.

A I

Classification according to VbF:**Water hazard class:**

Water danger class 3 (Self-assessment): extremely hazardous for water.

(Contd. on page 5)

DE/E

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

Printing date 01.07.2013

Revision: 27.09.2011

Trade name **Furan**

(Contd. of page 4)

Other regulations, limitations and prohibitive regulations**ELINCS (European List of Notified Chemical Substances)**

Substance is not listed.

Substances of very high concern (SVHC) according to REACH, Article 57

This product contains a product listed by the European Chemicals Agency (ECHA) as a Substance of Very High Concern (SVHC). Information concerning SVHC can be found in Annex XIV for the REACH Regulation.

REACH - Pre-registered substances

Substance is listed.

15.2 Chemical safety assessment:

A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing data specification sheet: Health, Safety and Environmental Department.**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 Organization
 ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 IMDG: International Maritime Code for Dangerous Goods
 IATA: International Air Transport Association
 GHS: Globally Harmonized 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)
 VbF: Verordnung über brennbare Flüssigkeiten, Österreich (Ordinance on the storage of combustible liquids, Austria)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent

DE/E