



Safety Data Sheet

Printed : 20/11/2020

Revised : V1-R-1-CLP from 20/11/2020

FURFURAL

1. SECTION 1 - IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY

1.1. Product identifier

Name of the substance/mixture : **FURFURAL**
N° CAS TSCA : **98-01-1**
N° CE :
N° index REACH An VI : **605-010-00-4**
N° REACH (partially) : **Exempt UE**

Chemical / REACH name : **2-furaldehyde**
Molecular formula : **C5 H4 O2**
Molecular weight : **96.09**
IUPAC Name : **2-furaldehyde**

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

Use of the substance/mixture : **Industrial use only**

End use : **Fragrances / Cosmetic / Flavours**

1.3. Details of the supplier of the safety data sheet

SAS PCW
Aromagrasse - 45 bd Marcel Pagnol
06130 Grasse - FRANCE
Tel : +33 (0)4 92 42 35 00
Fax : +33 (0)4 92 42 35 19
Web : www.pcwfrance.com
Email : info@pcwfrance.com

Technical manager : regulatory@pcwfrance.com

1.4. Emergency telephone number

Emergency information service of the company

+33(6) 07 85 74 60 (24h/24h)

National emergency information service

INERIS : +33(8) 20 20 18 16

Anti poison Centers in France

ORFILA : +33(1) 45 42 59 59

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2. SECTION 2 - HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

GHS Classification :

(RegulationCLP)

Acute Tox. 4	Acute toxicity dermal 4
Acute Tox. 2	Acute toxicity inhalation 2
Acute Tox. 3	Acute toxicity oral 3
Carc. 2	Carcinogenicity 2
Eye Irrit. 2	Serious eye damage / eye irritation 2
Aquatic Chronic 3	Hazardous to the aquatic environment, long-term hazard 3
Flam. Liq. 3	Flammable Liquids 3
Skin Irrit. 2	Skin corrosion / irritation 2
STOT SE 3	Toxicité organes cibles - expo unique 3RI

H226 - Flammable liquid and vapour.

H301 - Toxic if swallowed.

H312 - Harmful in contact with skin.

H315 - Causes skin irritation.

H319 - Causes serious eye irritation.

H330 - Fatal if inhaled.

H335 - May cause respiratory irritation.

H351 - Suspected of causing cancer <state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>.

H412 - Harmful to aquatic life with long lasting effects.

2.2. Label elements

GHS Classification :

(RegulationCLP)



Warning mention : Danger

Acute Tox. 4	Acute toxicity dermal 4
Acute Tox. 2	Acute toxicity inhalation 2
Acute Tox. 3	Acute toxicity oral 3
Carc. 2	Carcinogenicity 2
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H226 - Flammable liquid and vapour.

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H315 - Causes skin irritation.

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H319 - Causes serious eye irritation.

H330 - Fatal if inhaled.

H335 - May cause respiratory irritation.

H351 - Suspected of causing cancer <state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>.

H412 - Harmful to aquatic life with long lasting effects.

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

P240+P241 - Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/.../equipment.

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

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

P301/303+P310 - If swallowed : Rinse mouth. Do not induce vomiting. Immediately call a poison center or doctor/physician.

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

P304+P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

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

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

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

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

P501 - Dispose of contents/container according to the local/ regional / national / international Regulation.

2.3. Other hazards

Contains Furfural (car. 2)

PBT :	No data
vPvB :	No data
VOC Swiss - Annex 1 :	Not listed
COV medium (CARB) :	100%
CMR (Reg. 1223/2009/EEC) :	See certificate

3. SECTION 3 - COMPOSITION INFORMATION ON INGREDIENTS

3.1. Substances

Material	C.A.S	EINECS	Classification	Percent %
Furfural (car. 2) (Regist. : N° INDEX 605-010-00-4)	98-01-1	202-627-7	Acute Tox. 4, Acute Tox. 2, Acute Tox. 3, Carc. 2, Aquatic Chronic 3, Skin Irrit. 2, STOT SE 3 - H301, H312, H315, H319, H330, H335, H351, H412	> 50 %

3.2. Mixtures

NO CONCERNED

4. SECTION 4 - FIRST AID MEASURES

4.1. Description of first aid measures

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General notes : Please refer to the risk and safety statements (section 2)

Following inhalation : If inhaled : If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Remove collar, belt, tie... Give artificial respiration if not breathing.

Following ingestion : If swallowed: Immediately call a POISON CENTER or doctor/physician. Rinse mouth. Do NOT induce vomiting.

Following skin contact : If on skin (or hair) or clothing rinse immediately contaminated clothing and skin with plenty of water before removing clothes. If the symptom persists, consult a doctor.

Following eye contact : Rinse cautiously with water for several minutes (15 minutes open eyelids). Remove contact lenses, if present and easy to do. Continue rinsing. In case of disorder, consult an ophtalmologist.

Self-protection of the first aider : In lack of appropriate formation, none initiative should imply an individual risk.

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

See section 2

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

See section 2

5. SECTION 5 - FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire. CO₂, powder, foam, specific liquid.

Unsuitable extinguishing media : Never use a direct stream of water.

5.2. Special hazards arising from the substance or mixture

Flammability : The product is not flammable.

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

Particular risks linked to exposure : see section 2

Hazardous combustion products :

Release of poison gases : Monoxide de carbone (CO), Dioxyde de carbon (CO₂), Oxyde d'azotes (NO_x), Dioxyde de soufre (SO₂), Cyanures (CN)

Auto-ignition temperature (°C) : -

5.3. Advice for firefighters

Fire-fighting equipment : use an appropriate personal protective equipment with an approved positive-pressure self-

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contained breathing apparatus.

6. SECTION 6 - ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Call immediately the emergency personnel.

Promote adequate ventilation in the area.

For non-emergency personnel

Keep them away from the area. Avoid all sources of ignition (spark or flame).

Avoid skin/eye contact. Do not inhale vapours.

For emergency responders

Use personal protective equipment. In case of accidental spills, wear protective gloves during the handling.

6.2. Environmental precautions

Avoid the dispersion and flow of the product. Keep away from drains, surface and ground water.

Inform the competent authorities if the product enters in ground or surface waters.

6.3. Methods and material for containment and cleaning up

For containment

The spillage is contained with sand or inert powder. The chemical waste is placed in sealed containers.

For cleaning up

The soiled elements (rags, absorbent papers, filters) are immediately soaked into water. The chemical waste are rapidly treated according to the local regulation.

Other informations

Only qualified personnel is allowed to clean up.

6.4. Reference to other sections

See section 8 for personal protective equipment and section 13 for waste treatment.

7. SECTION 7 - HANDLING AND STORAGE

7.1. Precautions for safe handling

Protective measures:

See section 2.2



Measures to prevent fire:

Do not smoke. Do not expose to excessive heat or ignition sources (spark or flame).

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Measures to prevent aerosol and dust generation:

Maintain adequate ventilation in the area.

Measures to protect the environment:

Avoid spreading product and keep it from spilling. Precautions or coming in contact with the ground, waterways, drains and vents.

Advice on general occupational hygiene:

Follow the general hygiene rules.

Precautions of use :

Avoid any direct contact with the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: Store in its original packaging in a cool dry place, away from light.

Technical measures: Close the container after use.

In case of transferring, reproduce the labelling.

Packaging materials: Preserve only in the container of origin.

Respect the general rules of incompatibility.

Storage :

Store at 25°C max. in tightly sealed original container. Avoid prolonged exposure to light, heat and air.

Storage areas and packaging conditions :

Close carefully any already opened recipient and store it vertically to avoid any flow

Protection against the fire and the explosion :

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

7.3. Specific end use(s)

Wash the hands and any other zone exposed with soap and water before eating, drinking, to smoke and before leaving work.

8. SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Control parameters

Measures of technical order : Avoid contact with eyes, skin and clothes. Do not ingest. Do not inhale vapors. Use proper personal protective equipment.

Monitoring procedures : If the product contains ingredients presenting exposure limits, he can turn out necessary to make an examination followed by the persons, by the atmosphere in the workplace either bodies living to end the efficiency of the ventilation or the other control measures or estimate the need to use of the material of protection of respiratory tracts. It is important to put back you in the European standard EN 689 concerning the methods to estimate the exhibition by inhalation to the chemical agents and to the national general documents of politics relative to the methods to determine dangerous substances.

PNEC Fresh water :

No data

PNEC Fresh water sediment :

No data

PNEC Marine water :

No data

PNEC Marine sediment :

No data

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PNEC Soil : **No data**

VLEP short term mg/m³ (98/24/CE) : **No data**

VLEP (8h) mg/m³ (98/24/CE) : **No data**

DNEL - Inhalation : **No data**

DNEL - Skin contact : **No data**

8.2. Exposure controls

Appropriate technical controls :

No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure.

Personal protection measures :

Personal protection :

-Protection des mains : Protection non requise.-Protection des yeux : Protection non requise.

-Protection respiratoire : En cas de ventilation insuffisante, porter un appareil respiratoire approprié.

Respiratory protection : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates that is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Filter apparatus (dust masks or half masks)

Type of filters

Type AX (Brown) : Organic compounds boiling point < 65°C

Type A (Brown) : Organic compounds boiling point > 65°C

Type B (Grey) : Inorganic gasses and fumes.

Type P (White) : Particles, dusts and aerosols

Hand protection : Impermeable and chemical resistant gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary >8 hours before piercing : vinyle disposable.

Remark : Recommended impermeable goggles do not only depend on this matter. Other factors can have a significant effect on impermeability, like their thickness or specific use or temperature conditions. In all cases, matter certificates should be selected. Ask your supply if the goggles are appropriate to this use.

Eyes protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.
Recommended : Splash goggles, safety glasses with side-shields.

Skin protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Body : Recommended : lab coat (sarrau), general.

Type 3 : Liquid impermeability

Type 4 : Aerosol impermeability

Type 6 : Impermeability limited to liquid splashes

Foot : Recommended : neoprene

Upper and sole resistant and impermeable (Hydrocarbure resistant).

9. SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance : **Liquid**

Color : **Pale yellow - brown**

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Odour : **Bitter almonds, fresh**

Density at 20°C : **[1.155 ; 1.165]**

Refractive index @ 20°C : **[1.521 ; 1.531]**

Acid Value : **[0 ; 1.00 mgKOH/g]**

Melting point (°C) : **-**

Boiling point (°C) : **161.7**

Flash point (°C) (close cup) : **60**

Ignition temperature : **-**

Explosive properties : **-**

Purity (%) : **[98.5 ; 100.0]**

Impurities >0.01% : **-**

Vapor pressure : **2.234000 mmHg @ 25.00 °C. (est)**

Partition coefficient n-octanol/water : **LogPow 0.410**

9.2. Other information

Water solubility : **No**

Solubility in alcohol (°) : **Yes**

10. SECTION 10 - STABILITY AND REACTIVITY

10.1. Reactivity

Avoid powerful oxidizing agents

10.2. Chemical stability

Stable under normal conditions.

Shelf life : **12 months, according to storage conditions**

10.3. Possibility of hazardous reactions

No hazardous reactions when stored and handled according to instructions.

10.4. Conditions to avoid

Avoid any potential source of heat.

10.5. Incompatible materials

NO CONCERNED

10.6. Hazardous decomposition products

Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

Dangerous decomposition products: No dangerous decomposition products known.

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11. SECTION 11 - TOXICOLOGICAL INFORMATION

11.1. Information on toxicological

Phototoxicity :	No data
Genotoxicity in vivo :	No data
Genotoxicity in vitro :	No data
LD50 oral (rat) :	No data
LD50 Dermal (rabbit) :	No data
Respiratory or Skin sensitization :	No data
Skin irritation :	No data
Serious eye damage/irritation :	No data
Eyes irritation :	No data

12. SECTION 12 - ECOLOGICAL INFORMATION

12.1. Toxicity

Do not leave the product, even diluted or in great quantity, penetrate the ground water, water or the drains.

LC50 Ecotoxicity :	No data
EC50 Ecology :	No data
CE50 (Aquatic fauna) :	No data
CE50 (Aquatic flora) :	No data
No observable adverse effect level (NOAEL) :	No data
No observed effect level (NOEL) :	No data

12.2. Persistence and degradability

Biodegradability :	No data
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12.3. Bioaccumulative potential

Bioaccumulation (LogPow) :	0.410
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12.4. Mobility in soil

PNEC sol	: No data
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12.5. Results of PBT and vPvB assessment

vPvB	: No data
PBT	: No data

12.6. Other adverse effects

No data

13. SECTION 13 - DISPOSAL CONSIDERATIONS

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13.1. Waste treatment methods

Product : Does not have to be evacuated with the refuse. Not let it penetrate in the sewers.

Not cleaned packing : Evacuation according to local reglementation.

14. SECTION 14 - TRANSPORT INFORMATION

ADR:



IMDG:



IATA:



14.1. UN number

ADR : 1199 (Tunnel code (D/E))

IMDG:1199

IATA :1199

14.2. UN proper shipping name

ADR : FURALDEHYDES

IMDG:FURALDEHYDES

IATA :FURALDEHYDES

14.3. Transport hazard class(es)

ADR : 6.1 (3)

IMDG:6.1 (3)

IATA :6.1 (3)

14.4. Packing group

ADR : III

IMDG:III

IATA :III

14.5. Environmental hazards

IMDG : NO CONCERNED

14.6. Special precautions for user

Avoid any direct contact with the product.

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

(Except particular case)

IBC Liquid substances

Metal (31A, 31B, 31N)

Plastic (31H1, 31H2)

GRV Solid substances

Metal (11A, 11B, 21A, 21N)

Plastic (11H1, 11H2, 21H1, 21H2)

15. SECTION 15 - REGULATORY INFORMATION

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

WGK : **2-ID113**

Custom tariff : **2932 12 00 00**

15.2. Chemical safety assessment

Exposure assessment : -

16. SECTION 16 - OTHER INFORMATIONS

Full H sentences text in point 3 :

H301	Toxic if swallowed.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer <state route of exposure if it is conclusively proven that no other routes

of exposure cause the hazard>.

H412 Harmful to aquatic life with long lasting effects.

Key literature references and sources for data

Sources for data : Information from supplier

Literature references : ECHA

Literature references EU : Reg. 1272/2008

Safety data sheet according to REG. 1272/2008/CE and its amendments

These indications are founded on the current state of our knowledge, but do not constitute a guarantee as for the properties of the product and do not give place to a contractual legal report.