1. PRODUCT

1.1 Product identifiers

Name: 5-Ethyl-3-hydroxy-4-methyl-2(5H)-furanone

CAS-No.: 698-10-2

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

Identified uses : Laboratory chemicals, Manufacture of substances

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Not a hazardous substance or mixture.

2.2 GHS Label elements, including precautionary statements

Not a hazardous substance or mixture.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

Stench.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

| Formula: | C ₇ H ₁₀ O ₃ | | |
|---|---|--|--|
| CAS-No.: | 698-10-2 | | |
| EC-No.: | 211-811-6 | | |
| No components need to be disclosed according to the applicable regulations. | | | |

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

4. FIRST AID MEASURES

4.1 Description of first aid measures

| General advice | |
|--|-----------------|
| No data available | |
| If inhaled | |
| If breathed in, move person into fresh air. If not breathing, give artificia | al respiration. |
| In case of skin contact | |
| Wash off with soap and plenty of water. | C ^Y |
| In case of eye contact | |
| Flush eyes with water as a precaution. | |
| If swallowed | |
| Never give anything by mouth to an unconscious person. Rinse mout | h with water. |

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

4.2 Indication of any immediate medical attention and special treatment needed

no data available

5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

Carbon oxides

5.3 Advice for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

5.4 Further information

no data available

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Avoid breathing vapours, mist or gas.

For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

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.

Recommended storage temperature: 2 - 8 °C

Handle and store under inert gas. Air and moisture sensitive.

7.3 Specific end use(s)

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

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Appropriate engineering controls

General industrial hygiene practice.

Personal protective equipment

| Eye/face protection | 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. |
| Body Protection | impervious 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 | Respiratory protection not required. For nuisance exposures use type OV/AG (US) or type ABEK (EU EN 14387) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). |
| Control of environmen tal exposure | Do not let product enter drains. |

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

| Appearance | Form: liquid Colour: colourless |
|--|--|
| Odour | unpleasant |
| Odour Threshold | no data available |
| рН | no data available |
| Melting point/freezing point | Melting point/range: 31 - 35 °C (88 - 95 °F) - lit. |
| Initial boiling point and boiling range | 83 - 86 °C (181 - 187 °F) at 0.7 hPa (0.5 mmHg) - lit. |
| Flash point | 113 °C (235 °F) - closed cup |
| Evaporation rate | no data available |
| Flammability (solid, gas) | no data available |
| Upper/lower flammability or explosive limits | no data available |
| Vapour pressure | no data available |
| Vapour density | no data available |
| Relative density | no data available |
| Water solubility | no data available |
| Partition coefficient: n-octanol/water | no data available |
| Auto-ignition temperature | no data available |
| Decomposition temperature | no data available |
| Viscosity | no data available |
| Explosive properties | no data available |
| Oxidizing properties | no data available |

9.2 Other safety information

no data available

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

no data available



10.5 Incompatible materials

Strong oxidizing agents

10.6 Hazardous decomposition products

Other decomposition products - no data available

In the event of fire: see section 5

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

| Acute toxicity | |
|--|--|
| no data available Inhalation: no data available Dermal: no data available no data available | ATTEN STO |
| Skin corrosion/irritation | |
| no data available | |
| Serious eye damage/eye irritation | |
| no data available | |
| Respiratory or skin sensitisation | |
| no data available | |
| Germ cell mutagenicity | .C. |
| no data available | |
| Carcinogenicity | |
| carcinogen or potential carcinogen by ACG NTP: No component of this product presen known or anticipated carcinogen by NTP. | ent at levels greater than or equal to 0.1% is identified as a iIH. t at levels greater than or equal to 0.1% is identified as a ent at levels greater than or equal to 0.1% is identified as a |
| Reproductive toxicity | |
| no data available no data available | C ² |
| Specific target organ toxicity -single | exposure |
| no data available | |
| Specific target organ toxicity -repea | ted exposure |
| no data available | A |
| Aspiration hazard | |
| no data available | |
| Additional Information | |
| RTECS: Not available To the best of our knowledge, the chemica investigated. | l, physical, and toxicological properties have not been thoroughly |

12. ECOLOGICAL INFORMATION

12.1 Toxicity

no data available

12.2 Persistence and degradability

no data available

12.3 Bioaccumulative potential

no data available

no data available

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects

no data available

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)

UN number: 3335 Class: 9

Proper shipping name: A Aviation regulated solid, n.o.s. (5-Ethyl-3-hydroxy-4-methylfuran-2(5H)-one)

Reportable Quantity (RQ):

Marine pollutant: No

Poison Inhalation Hazard: No

IMDG

Not dangerous goods

ΙΑΤΑ

UN number: 3335 Class: 9 Packing group: III

Proper shipping name: Aviation regulated solid, n.o.s. (5-Ethyl-3-hydroxy-4-methylfuran-2(5H)-one)

15. REGULATORY INFORMATION

SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the

threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

No SARA Hazards

Massachusetts Right To Know Components

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components

| Component | CAS-No. | Revision Date |
|---|----------|---------------|
| 5-Ethyl-3-hydroxy-4-methylfuran-2(5H)-one | 698-10-2 | |

New Jersey Right To Know Components

| Component | CAS-No. | Revision Date |
|---|----------|---------------|
| 5-Ethyl-3-hydroxy-4-methylfuran-2(5H)-one | 698-10-2 | |

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other

reproductive harm.

16. OTHER INFORMATION

HMIS Rating

Health hazard: 0

Chronic Health Hazard:

Flammability: 1

Physical Hazard 0

NFPA Rating

Health hazard: 0

Fire Hazard: 1

Reactivity Hazard: 0