SAFETY DATA SHEET
In accordance with UN GHS latest edition

Version: 1

Section 1. Identification of the substance or the mixture and of the supplier

1.1 Product Identifier
Product identifier: Ethyl maltol; CAS: 4940-11-8
Other identifiers: 2-Ethyl-3-hydroxy-4H-pyran-4-one

1.2 Relevant identified uses of the substance of mixture and uses advised against
Product uses: Flavours, Fragrances

1.3 Details of the supplier of the safety data sheet
Company name: Perfumer’s Apprentice
Company address: 170 Technology Circle
Scotts Valley
CA 95066
USA
Contact: Elisabeth Hanson
E-Mail address: regulatory@perfumersapprentice.com
Company phone: (831)316-7137

1.4 Emergency telephone number
Emergency phone: ChemTel: 1(800)255-3924, 01(813)248-0585 MIS6760377

Section 2. Hazards identification

2.1 Classification of the substance or mixture
Class and category of danger: Acute Toxicity - Oral Category 4
H302, Harmful if swallowed.

2.2 Label elements
Signal word: Warning
Hazard statements: H302, Harmful if swallowed.
M factor: None
Precautionary statements: P264, Wash hands and other contacted skin thoroughly after handling.
P270, Do not eat, drink or smoke when using this product.
P301/312, IF SWALLOWED: call a POISON CENTER or doctor/physician if you feel unwell.
P330, Rinse mouth.
P501, Dispose of contents/container to approved disposal site, in accordance with local regulations.
SAFETY DATA SHEET
In accordance with UN GHS latest edition

Version: 1

Pictograms:

2.3 Other hazards
Other hazards: None

Section 3. Composition / information on ingredients

3.1 Substances
Product identifier: Ethyl maltol; CAS: 4940-11-8

Section 4. First-aid measures

4.1 Description of first aid measures
Inhalation: Remove from exposure site to fresh air, keep at rest, and obtain medical attention.
Eye exposure: Flush immediately with water for at least 15 minutes. Contact physician if symptoms persist.
Skin exposure: Remove contaminated clothes. Wash thoroughly with soap and water. Contact physician if irritation persists.
Ingestion: IF SWALLOWED: call a POISON CENTER or doctor/physician if you feel unwell.

4.2 Most important symptoms and effects, both acute and delayed
Harmful if swallowed.

4.3 Indication of any immediate medical attention and special treatment needed
None expected, see Section 4.1 for further information.

Section 5: Firefighting measures

5.1 Extinguishing media
Suitable media: Carbon dioxide, Dry chemical, Foam.

5.2 Special hazards arising from the substance or mixture
In case of fire, may be liberated: Carbon monoxide, Unidentified organic compounds.

5.3 Advice for fire fighters:
In case of insufficient ventilation, wear suitable respiratory equipment.
SAFETY DATA SHEET
In accordance with UN GHS latest edition

Version: 1

Section 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:
Avoid inhalation. Avoid contact with skin and eyes. See protective measures under Section 7 and 8.

6.2 Environmental precautions:
Keep away from drains, surface and ground water, and soil.

6.3 Methods and material for containment and cleaning up:
Remove ignition sources. Provide adequate ventilation. Avoid excessive inhalation of vapours. Contain spillage immediately by use of sand or inert powder. Dispose of according to local regulations.

6.4 Reference to other sections:
Also refer to sections 8 and 13.

Section 7. Handling and storage

7.1 Precautions for safe handling:
Do not eat, drink or smoke when using this product.

7.2 Conditions for safe storage, including any incompatibilities:

7.3 Specific end use(s):
Flavours,Fragrances: Use in accordance with good manufacturing and industrial hygiene practices.

Section 8. Exposure controls/personal protection

8.1 Control parameters
Workplace exposure limits: Not Applicable

8.2 Exposure Controls
Eye / Skin Protection
Wear protective gloves/eye protection/face protection

Respiratory Protection
Under normal conditions of use and where adequate ventilation is available to prevent build up of excessive vapour, this material should not require special engineering controls. However, in conditions of high or prolonged use, or high temperature or other conditions which increase exposure, the following engineering controls can be used to minimise exposure to personnel: a) Increase ventilation of the area with local exhaust ventilation. b) Personnel can use an approved, appropriately fitted respirator with organic vapour cartridge or canisters and particulate filters. c) Use closed systems for transferring and processing this material.

Also refer to Sections 2 and 7.
SAFETY DATA SHEET
In accordance with UN GHS latest edition

Version: 1

Section 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance: Not determined
Odour: Not determined
Odour threshold: Not determined
pH: Not determined
Melting point / freezing point: Not determined
Initial boiling point / range: Not determined
Flash point: > 93 °C
Evaporation rate: Not determined
Flammability (solid, gas): Not determined
Upper/lower flammability or explosive limits: Product does not present an explosion hazard
Vapour pressure: Not determined
Vapour density: Not determined
Relative density: Not determined
Solubility(ies): Not determined
Partition coefficient: n-octanol/water: Not determined
Auto-ignition temperature: Not determined
Decomposition temperature: Not determined
Viscosity: Not determined
Explosive properties: Not expected
Oxidising properties: Not expected

9.2 Other information: None available

Section 10. Stability and reactivity

10.1 Reactivity:
Presents no significant reactivity hazard, by itself or in contact with water.

10.2 Chemical stability:
Good stability under normal storage conditions.

10.3 Possibility of hazardous reactions:
Not expected under normal conditions of use.

10.4 Conditions to avoid:
Avoid extreme heat.

10.5 Incompatible materials:
Avoid contact with strong acids, alkalis or oxidising agents.
SAFETY DATA SHEET
In accordance with UN GHS latest edition

Version: 1

10.6 Hazardous decomposition products:
Not expected.

Section 11. Toxicological information

11.1 Information on toxicological effects

Acute Toxicity: Acute Toxicity - Oral Category 4
Acute Toxicity Oral: 1200 mg/kg
Acute Toxicity Dermal: Not Applicable
Acute Toxicity Inhalation: Not Available

Skin corrosion/irritation: Based on available data the classification criteria are not met.

Serious eye damage/irritation: Based on available data the classification criteria are not met.

Respiratory or skin sensitisation: Based on available data the classification criteria are not met.

Germ cell mutagenicity: Based on available data the classification criteria are not met.

Carcinogenicity: Based on available data the classification criteria are not met.

Reproductive toxicity: Based on available data the classification criteria are not met.

STOT-single exposure: Based on available data the classification criteria are not met.

STOT-repeated exposure: Based on available data the classification criteria are not met.

Aspiration hazard: Based on available data the classification criteria are not met.

Information about hazardous ingredients in the mixture
Not Applicable

Refer to Sections 2 and 3 for additional information.

Section 12. Ecological information

12.1 Toxicity: Not available

12.2 Persistence and degradability: Not available

12.3 Bioaccumulative potential: Not available

12.4 Mobility in soil: Not available

12.5 Other adverse effects: Not available

Section 13. Disposal considerations

13.1 Waste treatment methods:
Dispose of in accordance with local regulations. Avoid disposing into drainage systems and into the environment. Empty containers should be taken to an approved waste handling site for recycling or disposal.

Section 14. Transport information
SAFETY DATA SHEET
In accordance with UN GHS latest edition

Version: 1

<table>
<thead>
<tr>
<th>14.1 UN number:</th>
<th>14.2 UN Proper Shipping Name:</th>
<th>14.3 Transport hazard class (es):</th>
<th>Sub Risk:</th>
<th>14.4 Packing Group:</th>
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UN Model Regulations
- Not classified

IMDG
- Not classified

ADR,RID,ADN
- Not classified

ICAO TI
- Not classified

14.5 Environmental hazards: Not environmentally hazardous for transport

14.6 Special precautions for user: None additional

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: Not classified

Section 15. Regulatory information
None additional

Section 16. Other information

Key to revisions:
Not applicable

Key to abbreviations:
Not applicable

The information in this safety data sheet is to the best of our knowledge true and accurate but all data, instructions, recommendations and/or suggestions are made without guarantee.