1.1 Product identifiers

Product name : Rosmarinic acid
Catalogue number : 4957 S
CAS NUMBER : 20283-92-5

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

Reagent for research use only.

1.3 Details of the supplier of the safety data sheet

Z.I Lyon Nord
Impasse Jacquard - C.S 30062
69727 GENAY CEDEX - FRANCE
Phone : (33)(0)478-98-20-34
Fax : (33)(0)478-98-19-45
info@extrasynthese.com

1.4 Emergency call number (I.N.R.S France) : Tel :
(33)(0)145-42-59-59

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

According to Regulation (EC) No 1272/2008
Not a hazardous substance or mixture.

2.2 Label elements

Labelling according Regulation (CE) No 1272/2008
Not a hazardous substance or mixture.

Pictogram
Not required

Hazard statement
Not required

Precautionary statements
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P262 Do not get in eyes, on skin, or on clothing.

Supplemental hazard statements
No additional information.

2.3 Other hazards

None

3. COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances

<table>
<thead>
<tr>
<th>Product name</th>
<th>Rosmarinic acid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Empirical formula</td>
<td>C18H16O8</td>
</tr>
<tr>
<td>CAS NUMBER</td>
<td>20283-92-5</td>
</tr>
<tr>
<td>Synonyms</td>
<td></td>
</tr>
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<td>EC Number</td>
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<table>
<thead>
<tr>
<th>Rosmarinic acid</th>
<th>Concentration</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>20283-92-5</td>
<td>&lt; 100%</td>
<td></td>
</tr>
</tbody>
</table>

For the full text of the H-statements mentioned in this section, see section 16.

3.2 Mixtures

Not applicable
MATERIAL SAFETY DATA SHEET

4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.

Inhalation
In case of inhalation, move the victim to fresh air. If breathing is difficult, put the victim on oxygen. If breathing stops, carry out artificial respiration.

In case of skin contact
Wash thoroughly with water and soap.

In case of eye contact
Rinse well with plenty of water for at least 15 minutes.

Ingestion
Do not make an unconscious person vomit or swallow anything. Rinse the mouth thoroughly 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.

4.3 Indication of any immediate medical attention and special treatment needed
No data available.

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media
Carbon dioxide, dry powder.

5.2 Special hazards arising from the substance
Harmful/toxic vapours, carbon oxides may be released during the fire.

5.3 Advise for fire-fighters
Wear an autonomous breathing apparatus and suitable protection clothing against chemical agents.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Evacuate the personnel from the contaminated zone. Ensure adequate ventilation.

6.2 Environmental precautions
Keeping away from drains, surface and ground waters.

6.3 Methods and materials for containment and cleaning up
Clean up without creating dust and place in adapted and sealed containers for elimination. Wash the contaminated area with water and soap. Confine washing water and dispose of it complying with the local regulations. After cleaning, quickly eliminate traces of water with a product absorbing liquids (for example: sand, sawdust, universal binder, Kieselguhr).

6.4 Reference to other sections
For disposal see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling
Avoid formation of dust. Avoid contact with skin and eyes. During handling, wear suitable personal protective equipment (see section 8). Follow the normal measures for preventive fire protection.

7.2 Specific handling
Use in a dark place.

7.3 Conditions for safe storage, including any incompatibilities
Store in a cool well-ventilated place. Keep container tightly closed in a dry place away from light. Store at <+8°C

7.4 Specific end use(s)
No data available

8. EXPOSURE CONTROL/PERSONAL PROTECTION

Rosmarinic acid
8.1 Control parameters

Occupational exposure limit values (Workplace Exposure Limits)
This information is not available.

8.2 Exposure controls

Respiratory protection
Wear imperatively an appropriated mask/respirator, tested and approved by standards such as NIOSH (US) or CEN (EU).

Hand protection
Handle with protective gloves. The selected gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Eye protection
Wear safety glasses.

Skin protection
Wear suitable protective clothing according to the quantity and the level of activity of the substance at the workplace.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

- Physical state: Powder
- Odour: No data available
- Odour threshold: No data available
- pH: No data available
- Melting point/freezing point: 167-176°C
- Initial boiling point/boiling range: 694°C
- Flash point: 254°C
- 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
- Solubility: Boiling water (Soluble)
  Ethyl alcohol (Soluble)
- 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 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 hazardous reactions during storage and handling complying with the instructions.

10.4 Conditions to avoid
No data available.

10.5 Incompatible materials
No data available.

10.6 Hazardous decomposition products
No hazardous decomposition products if the instructions for handling and storage are respected. During high overheating of the substance or during a fire, hazardous decomposition products may be produced.

11. TOXICOLOGICAL INFORMATION

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

Acute oral toxicity
No data available.

Acute dermal toxicity
No data available.

Acute inhalation toxicity
No data available.

Skin Corrosion
No data available.

Skin Irritation
No data available.

Serious Eye Damage
No data available.

Eye Irritation
No data available.

Respiratory Sensitisation
No data available.

Skin Sensitisation
No data available.

Germ Cell Mutagenicity
No data available.

Carcinogenicity
No data available.

Reproductive Toxicity
No data available.

Specific Target Organ Toxicity - Single Exposure
No data available.

Specific Target Organ Toxicity - Repeated Exposure
No data available.

Aspiration Hazard
No data available.

11.2 Information on other hazards
No data available.

12. ECOLOGICAL INFORMATION

12.1 Toxicity
No data available.

12.2 Persistence and degradability
No data available.

12.3 Bioaccumulative potential
No data available.

12.4 Mobility in soil
No data available.
12.5 Results of PBT and vPvB assessment
No data available.

12.6 Endocrine disrupting properties
No data available.

12.7 Other adverse effects
No data available.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods
Non-recyclable surplus and solutions must be sent to a licensed professional waste disposal service, while respecting the local statutory instructions. Contaminated packaging is to be eliminated in the same way as the product that is contained.

14. TRANSPORT INFORMATION

14.1 UN number or ID number
Not subject to transport regulations

14.2 UN proper shipping name
Not assigned.

14.3 Transport hazard classes
-

14.4 Packing group
-

14.5 Environmental hazards
No

14.6 Special precautions for user
There is no additional information.

14.7 Maritime transport in bulk according to IMO instruments
The cargo is not intended to be carried in bulk.

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
Directive 96/82/CE (SEVESO category/named substances) : not applicable.
Regulation CE 2037/2000 (substances that deplete the ozone layer) : not applicable.
Regulation 850/2004 (persistent organic pollutants) : not applicable.
Regulation REACH-Titre VII (authorisations) et Titre VIII (restrictions) : not applicable.

15.2 Chemical safety assessment
Not applicable.

16. OTHER INFORMATION

Use
The information contained in this safety data sheet are based on our experience and our current knowledge. The data may in no case be considered as product specifications. It is provided for information purposes only with no obligation on our part. In this respect, we shall not be held liable for the use which is made of our products and for the information given above.

Abbreviations and acronyms
ADR: Agreement on Dangerous Goods by Road
RID: Regulations concerning the International Transport of Dangerous Goods by Rail
IATA: International Air Transport Association
CAS: Chemical Abstract Service
PBT: Persistent, Bioaccumulative and Toxic
vPvB: Very Persistent and Very Bioaccumulative

Full text of R-phrase(s) and S-phrase(s) according to European Directive 67/548/EEC-Full text of hazard statement(s) mentioned in section 3
Not applicable.