

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

ProductName : Chlorosuccinic acid

2. HAZARDS IDENTIFICATION

Risk advice to man and the environment  
Causes burns.

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS-No.	EC-No.		Classification	Concentration
<b>Chlorosuccinic acid</b> 16045-92-4	240-188-3	-	C, R34	≥ 95 - ≤ 97 %
<b>Fumaric acid</b> 110-17-8	203-743-0	-	Xi, R36	≥ 3 - ≤ 5 %

For the full text of the R-phrases mentioned in this Section, see Section 16.

4. FIRST AID MEASURES

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

**If inhaled**  
If breathed in, move person into fresh air. If not breathing give artificial respiration Consult a physician.

**In case of skin contact**  
Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

**In case of eye contact**  
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**If swallowed**  
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE-FIGHTING MEASURES

**Suitable extinguishing media**  
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Special protective equipment for fire-fighters**  
Wear self contained breathing apparatus for fire fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

**Personal precautions**  
Use personal protective equipment. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation. Evacuate personnel to safe areas.

**Environmental precautions**  
Do not let product enter drains.

**Methods for cleaning up**  
Pick up and arrange disposal without creating dust. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

**Handling**  
Avoid formation of dust and aerosols.  
Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

**Storage**  
Store in cool place. Keep container tightly closed in a dry and well-ventilated place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Personal protective equipment**

**Respiratory protection**  
Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

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

**Eye protection**  
Face shield and safety glasses

**Skin and body protection**  
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

**Hygiene measures**  
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance**

Form	powder
Colour	beige

**Safety data**

pH	no data available
Melting point	150 - 153 °C
Boiling point	no data available
Flash point	no data available
Ignition temperature	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Water solubility	no data available

10. STABILITY AND REACTIVITY

**Storage stability**  
Stable under recommended storage conditions.

11. TOXICOLOGICAL INFORMATION

**Acute toxicity**  
no data available

**Irritation and corrosion**  
no data available

**Sensitisation**  
no data available

**Chronic exposure**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**Signs and Symptoms of Exposure**  
Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting., spasm, inflammation and edema of the bronchi, spasm, inflammation and edema of the larynx, pulmonary edema, Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

**Potential Health Effects**

<b>Inhalation</b>	May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
<b>Skin</b>	May be harmful if absorbed through skin. Causes skin burns.
<b>Eyes</b>	Causes eye burns.
<b>Ingestion</b>	May be harmful if swallowed. Causes burns.
<b>Target Organs</b>	Kidney,

12. ECOLOGICAL INFORMATION

**Elimination information (persistence and degradability)**  
no data available

**Ecotoxicity effects**

no data available

**Further information on ecology**  
no data available

13. DISPOSAL CONSIDERATIONS

**Product**  
Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

**Contaminated packaging**  
Dispose of as unused product.

14. TRANSPORT INFORMATION

**ADR/RID**  
UN-Number: 3261 Class: 8 Packing group: II  
Proper shipping name: CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. (Chlorosuccinic acid)

**IMDG**  
UN-Number: 3261 Class: 8 Packing group: II EMS-No: F-A, S-B  
Proper shipping name: CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. (Chlorosuccinic acid)  
Marine pollutant: No

**IATA**  
UN-Number: 3261 Class: 8 Packing group: II  
Proper shipping name: Corrosive solid, acidic, organic n.o.s. (Chlorosuccinic acid)

15. REGULATORY INFORMATION

Labelling according to EC Directives

Hazard symbols	
C	Corrosive
R-phrases(s)	
R34	Causes burns.
S-phrases(s)	
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/37/39	Wear suitable protective clothing, gloves and eye/face protection.
S45	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
Hazardous components which must be listed on the label:	
16045-92-4	Chlorosuccinic acid

16. OTHER INFORMATION

**Text of R-phrases mentioned in Section 3**

R34	Causes burns.
R36	Irritating to eyes.

**Further information** For R&D use only. Not for drug, household or other uses.



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WARRANTY:  
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Lookchem shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.