

Lactulose Solution USP / EP GRADE

MATERIAL SAFETY DATA SHEET

According to 1907/2006/EG, article 31

Revision date: 19.08.2011

1. Product Identification

<i>Common name</i>	Lactulose Syrup
<i>Synonym</i>	Not applicable
<i>CAS number</i>	4618-18-2 *
<i>EINECS number</i>	225-027-7 *
<i>Chemical name</i>	4-O- β -D-Galactopyranosyl-D-Fructose *
<i>Therapeutic cat.</i>	Laxative
<i>Molecular formula</i>	C₁₂H₂₂O₁₁
<i>Molecular weight</i>	342.30 *
<i>Merck index</i>	14,5346 *
<i>Manufacturer / supplier</i>	Società Chimica Mugello S.r.l. Via E. Mattei, 26, I-50039 Vicchio / Italy
<i>Telephone</i>	+39-055-843901
<i>Telefax</i>	+39-055-844730

* referred to the active ingredient

2. Risks Information

Very mild toxic by ingestion and other routes

3. Components

<i>Components</i>	Lactulose and low quantities of other sugars (galactose, lactose and others) as related substances Water
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4. First Aid Measures

<i>Emergency and first aid procedures</i>	Remove from exposure Remove contaminated clothing In case of eyes or skin contact, flush affected areas with copious amounts of water Assure adequate flushing of the eyes by separating the eyelids with fingers If swallowed, wash out mouth with water provided person is conscious Call a physician
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5. Fire-Fighting Measures

<i>Flash point</i>	Not applicable
<i>Extinguishing media</i>	Water, carbon dioxide Dry chemical powder or appropriate foam extinguisher for surrounding fire and materials
<i>Special fire fighting procedures</i>	As with all fires, evacuate area Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes
<i>Unusual fire and explosions hazards</i>	Material emits toxic fumes of carbon monoxide under fire conditions

6. Accidental Release Procedures

<i>Steps to be taken in case material is released or spilled</i>	Wear compatible chemical-resistant rubber gloves Vacuum or sweep up spillage with inert material Place spillage in appropriate container for waste disposal according to local laws Wash contaminated clothing before reuse Wash spill site with copious amounts of water after material pickup is complete
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7. Handling and Storage

<i>Precautions to be taken</i>	Store in tightly closed container This material should be handled and stored per label and other instructions to ensure product integrity Do not permit eating, drinking or smoking near material Wash thoroughly after handling Avoid contact with eyes, skin and clothing
<i>Storage requirements</i>	Store in suitable tightly closed container
<i>Other protection</i>	Appropriate and protective laboratory apparel
<i>Eye protection</i>	Safety goggles

8. Exposure Controls / Personal Protection

<i>Respiratory protection</i>	None required where adequate ventilation conditions exist
<i>Protective gloves</i>	Rubber gloves
<i>Eye protection</i>	Safety goggles

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9. Physical Properties

<i>Boiling point</i>	Not applicable
<i>Specific gravity</i>	1.3 g / ml
<i>Vapour pressure</i>	Not applicable
<i>Melting point</i>	Not applicable
<i>Water content</i>	35 %
<i>Solubility</i>	100 % mixable with water
<i>Appearance and odour</i>	Clear light yellow liquid with slightly sweet odour

10. Stability and Reactivity Data

<i>Stability</i>	Material is stable under normal conditions
<i>Incompatibility</i>	Slightly exothermic reaction with oxidizing agents
<i>Hazardous combustion or decomposition products</i>	When heated to decomposition, material emits acrid smoke and irritating fumes Emits toxic fumes under fire conditions
<i>Hazardous polymerization</i>	Will not occur

11. Health Hazard Information

<i>Acute effects</i>	May cause skin and / or eye irritation May be harmful and / or irritant by inhalation
<i>Signs and symptoms of exposure</i>	Can cause nausea, diarrhoea and flatulence
<i>RTECS number</i>	LS6965000
<i>Toxicity</i>	LD ₅₀ 31000 mg / kg (oral-mouse)* LD ₅₀ 18160 mg / kg (oral-rat)*

* referred to the active ingredient

12. Ecological Information

Absorb with inert material, place into appropriate container. Dispose of in accordance with all applicable regulations.

Toxic environmental effects are not known.

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13. Disposal Procedures

Waste disposal methods

Biodegradation through an active sludge waste waters plant
Dissolve or mix the material with a combustible solvent and burn in a suitable incinerator equipped with an afterburner and scrubber
Observe all applicable federal regulations

14. Transport Information

RID / ADR

Non-hazardous for road transport

IMDG

Non-hazardous for sea transport

IATA

Non-hazardous for air transport

15. Regulatory Information

Data not available

16. Additional Information

The information in this material safety data sheet meets international requirements. This document is intended only as a guide to the appropriate precautionary handling of the material by a person trained in chemical handling.

The user is responsible for determining the precautions and dangers of this chemical for particular application depending on usage.

Protective clothing including eye and face guard and respirators must be used to avoid contact with material or breathing chemical vapours / fumes.

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As new documented general safety information becomes available, SCM will periodically revise this material safety data sheet. It is user's responsibility to contact our customer service department for the updated version of this document.