

SAFETY DATA SHEET according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

| | Date of issue: 09/15/2014 | Version 1.0 |
|---|--|-------------|
| SECTION 1. Identification Product identifier | | |
| Product number | 437650 | |
| Product name | Lipopolysaccharide, Salmonella typhimurium | |
| Relevant identified uses of t | he substance or mixture and uses advised against | |
| Identified uses | Use restricted under TSCA to research and development or as analytical reagent. Uses regulated under FDA or FIFRA are not affected. Reagent for research and development | |
| Details of the supplier of the | safety data sheet | |
| Company | EMD Millipore Corporation 290 Concord Road, Billerica, MA 0182 United States of America General Inquiries: +1-978-715-4321 Monday to Friday, 9:00 AM to 4:00 PM Eastern Time (GMT-5) | 21, |
| Emergency telephone | 800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week | |

SECTION 2. Hazards identification

GHS Classification

Acute toxicity, Category 2, Oral, H300 For the full text of the H-Statements mentioned in this Section, see Section 16.

GHS-Labeling

Hazard pictograms



Signal Word Danger

Hazard Statements H300 Fatal if swallowed.

Precautionary Statements

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P264 Wash skin thoroughly after handling.

- P270 Do not eat, drink or smoke when using this product.
- P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
- P321 Specific treatment (see supplemental first aid instructions on this label).
- P330 Rinse mouth.
- P405 Store locked up.
- P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. Composition/information on ingredients

Remarks

No hazardous ingredients according to the OSHA Hazard Communication Standard 29 CFR 1910.1200.

SECTION 4. First aid measures

Description of first-aid measures

Inhalation

After inhalation: fresh air.

Skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

Eye contact

After eye contact: rinse out with plenty of water.

Ingestion

If swallowed: give water to drink (two glasses at most). Seek medical advice immediately. In exceptional cases only, if medical care is not available within one hour, induce vomiting (only in persons who are wide awake and fully conscious), administer activated charcoal (20 - 40 g in a 10% slurry) and consult a doctor as quickly as possible. Do not attempt to neutralize.

Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed

We have no description of any toxic symptoms.

Indication of any immediate medical attention and special treatment needed

No information available.

SECTION 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media Water, Foam, Carbon dioxide (CO2), Dry powder

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

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Special hazards arising from the substance or mixture

Combustible.

Development of hazardous combustion gases or vapors possible in the event of fire.

Advice for firefighters

Special protective equipment for fire-fighters Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Further information

Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders:

Protective equipment see section 8.

Environmental precautions

Do not let product enter drains.

Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully. Dispose of properly. Clean up affected area. Avoid generation of dusts.

SECTION 7. Handling and storage

Precautions for safe handling

Observe label precautions.

Conditions for safe storage, including any incompatibilities

Tightly closed. Dry. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons.

Store at $+2^{\circ}$ C to $+8^{\circ}$ C ($+36^{\circ}$ F to $+46^{\circ}$ F).

SECTION 8. Exposure controls/personal protection

Exposure limit(s)

Contains no substances with occupational exposure limit values.

Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

Individual protection measures

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

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Hygiene measures

Change contaminated clothing. Application of skin- protective barrier cream recommended. Wash hands after working with substance.

Eye/face protection Safety glasses

Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Other protective equipment: protective clothing

Respiratory protection

required when dusts are generated.

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

| SECTION | 9. | Physical | and | chemical | properties |
|---------|----|----------|-----|----------|------------|
|---------|----|----------|-----|----------|------------|

| Physical state | solid |
|---------------------------|---------------------------|
| Color | No information available. |
| Odor | No strong odor known. |
| Odor Threshold | No information available. |
| рН | No information available. |
| Melting point | No information available. |
| Boiling point | No information available. |
| Flash point | No information available. |
| Evaporation rate | No information available. |
| Flammability (solid, gas) | No information available. |
| Lower explosion limit | No information available. |
| Upper explosion limit | No information available. |
| Vapor pressure | No information available. |
| Relative vapor density | No information available. |
| Density | No information available. |
| Relative density | No information available. |

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| Water solubility | No information available. | |
| Partition coefficient: n- octanol/water | No information available. | |
| Autoignition temperature | No information available. | |
| Decomposition temperature | No information available. | |
| Viscosity, dynamic | No information available. | |
| Explosive properties | Not classified as explosive. | |
| Oxidizing properties | none | |

SECTION 10. Stability and reactivity

Reactivity

The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.

Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

Possibility of hazardous reactions

Violent reactions possible with:

Strong oxidizing agents

Conditions to avoid

no information available

Incompatible materials

no information available

Hazardous decomposition products

no information available

SECTION 11. Toxicological information

Information on toxicological effects

Likely route of exposure Eye contact, Skin contact, Ingestion

Acute oral toxicity LD50 Rat: 48.3 mg/kg (External MSDS)

absorption

Specific target organ systemic toxicity - single exposure The substance or mixture is not classified as specific target organ toxicant, single exposure.

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| The substance or mixture is Aspiration hazard | <i>mic toxicity - repeated exposure</i> onot classified as specific target organ toxicant, repeated exposure. ta the classification criteria are not fulfilled. | |
| Carcinogenicity | | |
| IARC | No ingredient of this product present at levels greater than or | |
| | equal to 0.1% is identified as probable, possible or confirmed | |
| | human carcinogen by IARC. | |
| OSHA | No ingredient of this product present at levels greater than or | |
| | equal to 0.1% is identified as a carcinogen or potential | |
| | carcinogen by OSHA. | |
| NTP | No ingredient of this product present at levels greater than or | |
| | equal to 0.1% is identified as a known or anticipated carcinogen | |

| | by NTP. |
|-------|---|
| ACGIH | No ingredient of this product present at levels greater than or |
| | equal to 0.1% is identified as a carcinogen or potential |
| | carcinogen by ACGIH. |

Further information

Other dangerous properties can not be excluded. Handle in accordance with good industrial hygiene and safety practice.

SECTION 12. Ecological information

Ecotoxicity

No information available.

Persistence and degradability No information available.

Bioaccumulative potential

No information available.

Mobility in soil

No information available.

Additional ecological information

Discharge into the environment must be avoided.

SECTION 13. Disposal considerations

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

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SECTION 14. Transport information

Land transport (DOT)

Not classified as dangerous in the meaning of transport regulations.

Air transport (IATA)

Not classified as dangerous in the meaning of transport regulations.

Sea transport (IMDG)

Not classified as dangerous in the meaning of transport regulations.

SECTION 15. Regulatory information

United States of America

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 302

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

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311,

Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311,

Table 117.3.

DEA List I Not listed

DEA List II Not listed

US State Regulations

Massachusetts Right To Know

Remarks

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

Pennsylvania Right To Know

Ingredients Lipopolysaccharide, Salmonella minnesota Re 595

New Jersey Right To Know

Ingredients Lipopolysaccharide, Salmonella minnesota Re 595

California Prop 65 Components

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

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|--------------------------------|---|-------------|
| Notification status | | |
| TSCA: | Not Listed on TSCA inventory. For Research and Development | |
| | Use only. Not For Manufacturing or Commercial Purposes. | |
| DSL: | This product contains one or several components that are not on | |
| | the Canadian DSL nor NDSL. | |

SECTION 16. Other information

Training advice

Provide adequate information, instruction and training for operators.

Labeling

Hazard pictograms



Signal Word Danger

Hazard Statements H300 Fatal if swallowed.

Precautionary Statements Response P308 + P310 IF exposed or concerned: immediately call a POISON CENTER or doctor/ physician.

Full text of H-Statements referred to under sections 2 and 3.

H300 Fatal if swallowed.

Key or legend to abbreviations and acronyms used in the safety data sheet Used abbreviations and acronyms can be looked up at www.wikipedia.org.

Date of issue: 09/15/2014

The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to appropriate safety precautions. It does not represent a warranty of any product properties and we assume no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

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