1. PRODUCT AND COMPANY IDENTIFICATION

<table>
<thead>
<tr>
<th>Product name</th>
<th>Sodium dodecyl sulfate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Number</td>
<td>L4390</td>
</tr>
<tr>
<td>Brand</td>
<td>Sigma</td>
</tr>
<tr>
<td>Supplier</td>
<td>Sigma-Aldrich</td>
</tr>
<tr>
<td>3050 Spruce Street</td>
<td>SAINT LOUIS MO 63103</td>
</tr>
<tr>
<td>Telephone</td>
<td>+1 800-325-5832</td>
</tr>
<tr>
<td>Fax</td>
<td>+1 800-325-5052</td>
</tr>
<tr>
<td>Emergency Phone #</td>
<td>(314) 776-6555</td>
</tr>
<tr>
<td>Preparation Information</td>
<td>Sigma-Aldrich Corporation</td>
</tr>
<tr>
<td></td>
<td>Product Safety - Americas Region</td>
</tr>
<tr>
<td></td>
<td>1-800-521-8956</td>
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2. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards
Flammable solid, Target Organ Effect, Harmful by ingestion., Toxic by skin absorption, Irritant

Target Organs
Lungs

GHS Classification
Flammable solids (Category 1)
Acute toxicity, Oral (Category 4)
Acute toxicity, Dermal (Category 3)
Skin irritation (Category 2)
Eye irritation (Category 2A)
Specific target organ toxicity - single exposure (Category 3)
Acute aquatic toxicity (Category 2)

GHS Label elements, including precautionary statements

Pictogram

Signal word: Danger

Hazard statement(s)
H228 Flammable solid.
H302 Harmful if swallowed.
H311 Toxic in contact with skin.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H401 Toxic to aquatic life.

Precautionary statement(s)
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
Wear protective gloves/ protective clothing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Call a POISON CENTER or doctor/ physician if you feel unwell.

## HMIS Classification
- **Health hazard:** 2
- **Chronic Health Hazard:** *
- **Flammability:** 3
- **Physical hazards:** 3

## NFPA Rating
- **Health hazard:** 2
- **Fire:** 3
- **Reactivity Hazard:** 3

### Potential Health Effects
- **Inhalation:** May be harmful if inhaled. Causes respiratory tract irritation.
- **Skin:** Toxic if absorbed through skin. Causes skin irritation.
- **Eyes:** Causes eye irritation.
- **Ingestion:** Harmful if swallowed.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### Synonyms:
- Lauryl sulfatesodium salt
- Sodium lauryl sulfate
- Dodecyl sodium sulfate
- Dodecyl sulfate sodium salt
- SDS

#### Formula: \( C_{12}H_{25}NaO_4S \)

#### Molecular Weight: 288.38 g/mol

<table>
<thead>
<tr>
<th>Component</th>
<th>Concentration</th>
</tr>
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<td>Sodium dodecyl sulphate</td>
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<tr>
<td>CAS-No.</td>
<td>151-21-3</td>
</tr>
<tr>
<td>EC-No.</td>
<td>205-788-1</td>
</tr>
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</table>

### 4. FIRST AID MEASURES

#### General advice
Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

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

**In case of skin contact**
Wash off with soap and plenty of water. Take victim immediately to hospital. 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. FIREFIGHTING MEASURES

#### Conditions of flammability
Flammable in the presence of a source of ignition, through friction or retained heat. Keep away from heat/sparks/open flame/hot surface. No smoking.

#### Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Special protective equipment for firefighters
Wear self contained breathing apparatus for fire fighting if necessary.

Hazardous combustion products
Hazardous decomposition products formed under fire conditions. - Carbon oxides, Sulphur oxides, Sodium oxides

Further information
Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Wear respiratory protection. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Avoid breathing dust.

Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up
Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal. Contain spillage, pick up with an electrically protected vacuum cleaner or by wet-brushing and transfer to a container for disposal according to local regulations (see section 13).

7. HANDLING AND STORAGE

Precautions for safe handling
Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

Conditions for safe storage
Keep container tightly closed in a dry and well-ventilated place. hygroscopic

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

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
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove’s outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Immersion protection
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: > 480 min
Material tested:Dermatril® (Aldrich Z677272, Size M)

Splash protection
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: > 30 min
Material tested:Dermatril® (Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 873000, e-mail sales@kcl.de, test method: EN374
If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an Industrial Hygienist familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

**Eye protection**
Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin and body protection**
Complete suit protecting against chemicals, Flame retardant antistatic protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Hygiene measures**
Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance**

<table>
<thead>
<tr>
<th>Form</th>
<th>solid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour</td>
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**Safety data**

<table>
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<tr>
<th>pH</th>
<th>7.2</th>
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<tbody>
<tr>
<td>Melting point/freezing point</td>
<td>Melting point/range: 204 - 207 °C (399 - 405 °F) - lit.</td>
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<tr>
<td>Boiling point</td>
<td>no data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>180 °C (356 °F)</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>The substance or mixture is a flammable solid with the category 1.</td>
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<tr>
<td>Ignition temperature</td>
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</tr>
<tr>
<td>Autoignition temperature</td>
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<tr>
<td>Lower explosion limit</td>
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</tr>
<tr>
<td>Upper explosion limit</td>
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</tr>
<tr>
<td>Vapour pressure</td>
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</tr>
<tr>
<td>Density</td>
<td>0.370 g/cm³</td>
</tr>
<tr>
<td>Water solubility</td>
<td>soluble</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>log Pow: 1.6</td>
</tr>
<tr>
<td>Relative vapour density</td>
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</tr>
<tr>
<td>Odour</td>
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<tr>
<td>Odour Threshold</td>
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</tr>
<tr>
<td>Evaporation rate</td>
<td>no data available</td>
</tr>
</tbody>
</table>

### 10. STABILITY AND REACTIVITY

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

**Possibility of hazardous reactions**
no data available
**Conditions to avoid**
Heat, flames and sparks. Extremes of temperature and direct sunlight.

**Materials to avoid**
Oxidizing agents

**Hazardous decomposition products**
Other decomposition products - no data available
Hazardous decomposition products formed under fire conditions. - Carbon oxides, Sulphur oxides, Sodium oxides

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**11. TOXICOLOGICAL INFORMATION**

**Acute toxicity**

**Oral LD50**
LD50 Oral - rat - 1,288 mg/kg

**Inhalation LC50**
LC50 Inhalation - rat - 1 h - > 3,900 mg/m3

**Dermal LD50**
LD50 Dermal - rabbit - 580 mg/kg

**Other information on acute toxicity**
no data available

**Skin corrosion/irritation**
Skin - rabbit - Skin irritation - 24 h

**Serious eye damage/eye irritation**
Eyes - rabbit - Risk of serious damage to eyes. - OECD Test Guideline 405

**Respiratory or skin sensitization**
Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals.

**Germ cell mutagenicity**
no data available

**Carcinogenicity**

*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.

*ACGIH:* No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

*NTP:* No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

*OSHA:* No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive toxicity**

no data available

**Teratogenicity**

no data available

**Specific target organ toxicity - single exposure (Globally Harmonized System)**
Inhalation - May cause respiratory irritation.

**Specific target organ toxicity - repeated exposure (Globally Harmonized System)**
no data available
Aspiration hazard
no data available

Potential health effects

**Inhalation**
May be harmful if inhaled. Causes respiratory tract irritation.

**Ingestion**
Harmful if swallowed.

**Skin**
Toxic if absorbed through skin. Causes skin irritation.

**Eyes**
Causes eye irritation.

Signs and Symptoms of Exposure

sneezing. The sodium salt of dodecyl sulfate has been reported to cause pulmonary sensitization resulting in hyperactive airway dysfunction and pulmonary allergy accompanied by fatigue, malaise, and aching. Significant symptoms of exposure can persist for more than two years and can be activated by a variety of nonspecific environmental stimuli such as automobile exhaust, perfumes, and passive smoking.

Synergistic effects
no data available

Additional Information
RTECS: WT1050000

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12. ECOLOGICAL INFORMATION

**Toxicity**

**Toxicity to fish**
mortality NOEC - Oncorhynchus mykiss (rainbow trout) - 19.5 mg/l - 96 h
mortality LOEC - Pimephales promelas (fathead minnow) - 4.6 mg/l - 8 d
LC50 - Oncorhynchus mykiss (rainbow trout) - 3.6 mg/l - 96 h

**Toxicity to algae**
Growth inhibition LOEC - Pseudokirchneriella subcapitata - 2.68 mg/l - 6 d

**Persistence and degradability**

**Biodegradability**
Result: 90 % - Readily biodegradable.

**Bioaccumulative potential**

**Bioaccumulation**
Cyprinus carpio (Carp) - 72 h
Bioconcentration factor (BCF): 3.9 - 5.3

**Mobility in soil**
no data available

**PBT and vPvB assessment**
no data available

**Other adverse effects**
An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Toxic to aquatic life.

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13. DISPOSAL CONSIDERATIONS

**Product**
Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

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

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14. TRANSPORT INFORMATION

**DOT (US)**
UN number: 2926  Class: 4.1 (6.1)  Packing group: II
Proper shipping name: Flammable solids, toxic, organic, n.o.s. (Sodium dodecyl sulphate)
Reportable Quantity (RQ):
Marine pollutant: No
Poison Inhalation Hazard: No

IMDG
UN number: 2926   Class: 4.1 (6.1)   Packing group: II   EMS-No: F-A, S-G
Proper shipping name: FLAMMABLE SOLID, TOXIC, ORGANIC, N.O.S. (Sodium dodecyl sulphate)
Marine pollutant: No

IATA
UN number: 2926   Class: 4.1 (6.1)   Packing group: II
Proper shipping name: Flammable solid, toxic, organic, n.o.s. (Sodium dodecyl sulphate)

15. REGULATORY INFORMATION

OSHA Hazards
Flammable solid, Target Organ Effect, Harmful by ingestion., Toxic by skin absorption, Irritant

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

SARA 313 Components
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 311/312 Hazards
Fire Hazard, Acute Health Hazard, Chronic Health Hazard

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

Pennsylvania Right To Know Components

<table>
<thead>
<tr>
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New Jersey Right To Know Components

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California Prop. 65 Components
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

Further information
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