SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier
Trade name Sodium n-dodecyl sulfate
Stock number: B21422
CAS Number: 151-21-3
EC number: 205-788-1

1.2 Relevant identified uses of the substance or mixture and uses advised against. No further relevant information available.
Identified use: SU24  Scientific research and development

1.3 Details of the supplier of the safety data sheet
Manufacturer/Supplier: Thermo Fisher (Kandel) GmbH
Zeppelinstr. 7b
76185 Karlsruhe / Germany
Tel: +49 (0) 721 84007 280
Fax: +49 (0) 721 84007 300
Email: tech@alfa.com
www.alfa.com
Informing department: Product safety Tel +049 (0) 7275 988687-0

1.4 Emergency telephone number:
Carechem 24: +44 (o) 1235 239 670 (Multi-language emergency number)
Poison Information Center Mainz
www.giftinfo.uni-mainz.de  Telephone: +49(0)6131/19240

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008

GHS05 corrosion
Eye Dam. 1  H318 Causes serious eye damage.

GHS07
Acute Tox. 4  H302 Harmful if swallowed.
Skin Irrit. 2  H315 Causes skin irritation.
Aquatic Chronic 3  H412 Harmful to aquatic life with long lasting effects.

Other hazards that do not result in classification: No information known.

2.2 Label elements
Labelling according to Regulation (EC) No 1272/2008 The substance is classified and labelled according to the CLP regulation.

Signal word Danger
Hazard statements
H302 Harmful if swallowed.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements
P273 Avoid release to the environment.
P280 Wear protective gloves / eye protection / face protection.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards
Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

3.1 Substances
CAS# Designation: 151-21-3 Sodium n-dodecyl sulfate
Concentration: ≤100%
Identification number(s):
EC number: 205-788-1

SECTION 4: First aid measures

4.1 Description of first aid measures
After inhalation
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
Seek immediate medical advice.

After skin contact
Immediately wash with water and soap and rinse thoroughly.
Seek immediate medical advice.

After eye contact
Rinse opened eye for several minutes under running water. Then consult doctor.

After swallowing
Seek medical treatment.

4.2 Most important symptoms and effects, both acute and delayed
Causes skin irritation.
Harmful if swallowed.
Causes serious eye damage.

4.3 Indication of any immediate medical attention and special treatment needed
No further relevant information available.

(Contd. on page 2)
SECTION 5: Firefighting measures

5.1 Extinguishing media
Suitable extinguishing agents CO2, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.

5.2 Special hazards arising from the substance or mixture
If this product is involved in a fire, the following can be released:
- Carbon monoxide and carbon dioxide
- Sulphur oxides (SOx)
- Sodium oxide

5.3 Advice for firefighters
Protective equipment:
- Wear self-contained breathing apparatus.
- Wear full protective suit.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Wear protective equipment. Keep unprotected persons away. Ensure adequate ventilation.

6.2 Environmental precautions: Do not allow material to be released to the environment without proper governmental permits.

6.3 Methods and material for containment and cleaning up:
Dispose of contaminated material as waste according to section 13.

6.4 Reference to other sections
See Section 7 for information on safe handling.
See section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Keep containers tightly sealed. Store in cool, dry place in tightly closed containers. Ensure good ventilation/exhaustion at the workplace.

Information about protection against explosions and fires: No information known.

7.2 Conditions for safe storage, including any incompatibilities
Storage
Requirements to be met by storerooms and containers: No special requirements.
Information about storage in one common storage facility: Store away from oxidising agents.

Further information about storage conditions:
- Keep container tightly sealed.
- Store in cool, dry conditions in well sealed containers.

7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

Additional information about design of technical systems:
Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

8.1 Control parameters
Components with critical values that require monitoring at the workplace:
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Additional information: No data

8.2 Exposure controls
Personal protective equipment
General protective and hygienic measures
The usual precautionary measures should be adhered to in handling the chemicals. Keep away from foodstuffs, beverages and food. Instantly remove any soiled and impregnated garments. Wash hands during breaks and at the end of the work. Avoid contact with the eyes and skin. Maintain an ergonomically appropriate working environment.

Breathing equipment: Use breathing protection with high concentrations. Recommended filter device for short term use:
Use a respirator with type P100 (USA) or P3 (EN 143) cartridges as a backup to engineering controls. Risk assessment should be performed to determine if air-purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards.

Protection of hands:
Check protective gloves prior to each use for their proper condition. The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Material of gloves: Nitrile rubber, NBR
Penetration time of glove material (in minutes) 480

<table>
<thead>
<tr>
<th>Glove thickness:</th>
<th>0.11 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye protection:</td>
<td>Tightly sealed safety glasses.</td>
</tr>
<tr>
<td>Face protection</td>
<td>Safety glasses with side shields / NIOSH (US) or EN 166(EU)</td>
</tr>
<tr>
<td>Body protection:</td>
<td>Protective work clothing.</td>
</tr>
</tbody>
</table>

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties
General Information
Appearance:
- Various forms (powder/flake/crystalline/beads, etc.)

Odour:
- Not determined

Odour threshold:
- Not determined

pH-value:
- Not applicable.

Change in condition
- Melting point/freezing point: ca 206 °C
- Initial boiling point and boiling range: Not determined
- Sublimation temperature / start: Not determined
- Inflammability (solid, gaseous): Not determined
- Ignition temperature: Not determined
- Decomposition temperature: Not determined
- Self-inflammability: Not determined

Explosive properties:
- Not determined.

Critical values for explosion:
- Lower: Not determined.
Safety data sheet according to 1907/2006/EC, Article 31

Trade name: Sodium n-dodecyl sulfate

44.0 Upper:
Not determined

Steam pressure:
Not applicable.

Density:
Not determined.

Relative density:
Not determined.

Vapour density:
Not applicable.

Evaporation rate:
Not applicable.

Solubility in / Miscibility with Water at 20 °C:
100 g/l

Partition coefficient: n-octanol/water:
Not determined.

Viscosity:
Dynamic:
Not applicable.

Kinematic:
Not applicable.

9.2 Other information
No further relevant information available.

SECTION 10: Stability and reactivity

10.1 Reactivity
No information known.

10.2 Chemical stability
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
Reacts with strong oxidising agents.

10.4 Conditions to avoid
No further relevant information available.

10.5 Incompatible materials:
Oxidising agents.

10.6 Hazardous decomposition products:
Carbon monoxide and carbon dioxide.

Sulphur oxides (SOx).

Sodium oxide.

SECTION 11: Toxicological information

11.1 Information on toxicological effects
Acute toxicity
Harmful if swallowed.

The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for this substance.

LD/LEC50 values that are relevant for classification:

Oral (LD50) 1288 mg/kg (rat).

Skin irritation or corrosion:
Causes skin irritation.

Eye irritation or corrosion:
Causes serious eye damage.

Germ cell mutagenicity:
The Registry of Toxic Effects of Chemical Substances (RTECS) contains mutation data for this substance.

Carcinogenicity:
No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

Reproductive toxicity:
The Registry of Toxic Effects of Chemical Substances (RTECS) contains reproductive data for this substance.

Specific target organ system toxicity - single exposure:
No effects known.

Aspiration hazard:
No effects known.

Subacute to chronic toxicity:
The Registry of Toxic Effects of Chemical Substances (RTECS) contains multiple dose toxicity data for this substance.

Additional toxicological information:
To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

SECTION 12: Ecological information

12.1 Toxicity
Aquatic toxicity:
No further relevant information available.

12.2 Persistence and degradability
No further relevant information available.

12.3 Bioaccumulative potential
No further relevant information available.

Ecological effects:

Germ cell mutagenicity:
The Registry of Toxic Effects of Chemical Substances (RTECS) contains mutation data for this substance.

Carcinogenicity:
No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

Reproductive toxicity:
The Registry of Toxic Effects of Chemical Substances (RTECS) contains reproductive data for this substance.

Specific target organ system toxicity:
No effects known.

Aspiration hazard:
No effects known.

Subacute to chronic toxicity:
The Registry of Toxic Effects of Chemical Substances (RTECS) contains multiple dose toxicity data for this substance.

Additional toxicological information:
To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Recommendation:
Hand over to disposers of hazardous waste.

Must be specially treated under adherence to official regulations.

Recommendation: Disposal must be made according to official regulations.

Uncleaned packagings:
Recommendation:
Disposal must be made according to official regulations.

SECTION 14: Transport information

UN-Number
ADR, ADN, IMDG, IATA
Not applicable.

14.2 UN proper shipping name
ADR, ADN, IMDG, IATA
Not applicable.
14.3 Transport hazard class(es)
ADR, ADN, IMDG, IATA
Class Not applicable

Packing group
ADR, ADN, IMDG, IATA Not applicable

14.5 Environmental hazards: Not applicable.

14.6 Special precautions for user Not applicable.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code Not applicable.

Transport/Additional information:
ADR Not applicable
Exception (EQ): E2
UN "Model Regulation": Not applicable

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
Australian Inventory of Chemical Substances Substance is not listed.
Standard for the Uniform Scheduling of Medicines and Poisons Substance is not listed.

Directive 2012/18/EU
Named dangerous substances - ANNEX I Substance is not listed.
National regulations
Information about limitation of use:
Employment restrictions concerning young persons must be observed.
For use only by technically qualified individuals.
Classification according to VbF: Not applicable

Water hazard class: Water hazard class 2 (Assessment by list): hazardous for water.

Other regulations, limitations and prohibitive regulations
CCL (European List of Notified Chemical Substances) Substance is not listed.
Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006. Substance is not listed.
The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed.
Substance is not listed.
Annex XIV of the REACH Regulations (requiring Authorisation for use) Substance is not listed.

15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information
Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing SDS: Global Marketing Department

Abbreviations and acronyms:
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
VbF: Verordnung über brennbare Flüssigkeiten, Österreich (Ordinance on the storage of combustible liquids, Austria)

LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
VvHC: very Very Hazardous Chemicals
DDB : Dangerous Data Base (Germany)
DOSHA: Occupational Safety and Health Administration (USA)
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
BEI: Biological Exposure Limit
Acute Tox. 4: Acute toxicity – Category 4
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3