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SAFETY DATA SHEET

According to EC Regulation 453/2010

Sodium Lauryl Sulfate (Needles)	**N° : G5**	**Page**	**: 1/7**
	Issue : 4.0 En	**Date of issue**	**: 18/11/13**

1. IDENTIFICATION OF THE SUBSTANCE and of THE COMPANY

1.1. Product identifier

Generic chemical name	**Sodium Lauryl Sulphate on C12-14 alcohol in needle form**
Product brand name	**TENSOPOL**
This MSDS applies to the following grades :	Tensopol A79 (40358), A795 (40418), A795S (40043)
Chemical name	Sulfuric acid, mono-C12-14 (even numbered)-alkyl esters, sodium salts
Formula	C_nH_{2n+1}-OSO_3Na n= 12 & 14
	CAS : 85586-07-8 EINECS : [287-809-4]
REACH Registration Nr	01-2119489463-28-0007
INCI Name	Sodium Lauryl Sulfate

1.2. Relevant identified uses of the substance and uses advised against

Main uses	This substance is used as surfactant in many cosmetic, household and industrial cleaning or foaming applications.
Uses advised against	None identified

1.3. Supplier

TensaChem SA
Rue de Renory 28, B – 4102 Ougrée, Belgium
E-mail : Product.safety@tensachem.com

1.4. Emergency telephone numbers

TensaChem: +32 (0)4 33 89 343 (24H, 7d)

Belgian National Poisons Information Centre +32 (0)70 245 245 – www.poisoncentre.be

UK National Poisons Information Service (NPIS) – www.npis.org
Health professionals : 0844 892 0111 (24H)
Or NH24 (public) : 0845 424 2424

Poisons Information Centre of Ireland – www.poisons.ie
Health professionals : 01 837 9964 or 01 809 2566
Public : 01 809 2166 (Mon to Fri, 9 am to 5 pm)

2. HAZARDS IDENTIFICATION

2.1. Classification of the substance

2.1.1. CLP Classification (EC 1272/2008)

Hazard classes and categories	H Statements	Classification procedure
Acute Oral Tox Cat 4	H302	On basis of test data
Skin Irritation Cat 2	H315	On basis of test data
Serious Eye Damage Cat 1	H318	On basis of test data
Aquatic chronic cat. 3	H412	On basis of test data

2.1.2. Classification according to DSD (EC 67/548)

Xn; R22, R38, R41.

2.1.3. Additional information

Full text of R phrases : see section 16.

2.2. Labelling

Product Identifier
Grade name (see section 1)
or chemical name

Signal word : Danger

Pictograms

Hazard statements	***Precautionary statements*** *(full text : see section 16)*
H302 Harmful if swallowed	P273, 280,
H315 Causes Skin irritation	P305+351+338
H318 Causes serious eye damage	P310, P337+313,
H412 Harmful to aquatic life with long lasting effects	P501

2.3. Other hazards

Substance does not meet PBT or vPvB criteria. No other hazard identified

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical identity : Sulfuric acid, mono-C12-14 (even numbered)-alkyl esters, sodium salts (UVCB substance)**.**

Hazardous impurities : None.

Product does not contain any impurity or additive impacting classification.

For additional information on characteristics : see the corresponding technical data sheet.

4. FIRST AID MEASURES

4.1. Description of first aid measures

General

Seek for medical attention in case of persistent irritation, discomfort or any other severe trouble.

Inhalation

Not likely to occur as product is granulated and does not easily form dust.

Skin

Remove contaminated clothing and shoes. After contact with skin, wash immediately with plenty of water for a few minutes. Soap is not necessary as product is a surfactant.

Launder clothes and carefully clean shoes before reuse.

Eye

Rinse immediately and as long as possible (15 minutes at least) with plenty of water. Eyelids should be held away from the eyeball to ensure thorough rinsing. Remove contact lenses if present and easy to do.

Ingestion

Rinse mouth with water. DO NOT DRINK. DO NOT INDUCE VOMITING because of risk of aspiration.

Self protection of qualified first-aiders

First-aiders shall wear the recommended personal protection equipment (see section 8).

4.2. Most important symptoms and effects (acute & delayed)

Harmful if swallowed. Irritates the skin. Causes serious damage to eye.

In case of inadequate first-aid measures there is a possibility of persistent effects on the eye.

4.3. Indication of any immediate needed attention and special treatment needed.

Advice to physician: symptomatic treatment is advised.

Eye rinsing device shall be made available at any point of handling of the product.

5. FIRE-FIGHTING MEASURES

5.1. Extinguishing media

All extinguishing means are allowed.

High-pressure water jets will produce foam due to the surfactant property of the substance.

5.2. Special Hazards arising from the substance.

Material is not readily flammable. If involved in a fire, it may give off fumes containing sulphur and carbon oxides.

5.3. Advice for fire fighters

Use standard procedure for chemical fire.
Use self-contained breathing apparatus if necessary as substance may release toxic fumes if involved in a fire.

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedure.

Use personal protective equipment. Avoid contact with skin and eyes. Remove all ignition sources. Provide sufficient ventilation. May make floor very slippery if in contact with water.

6.2. Environmental precautions

Contain by any physical mean. Protect drains.
Do not allow to escape into ground, drains, sewage system, surface and ground waters.

6.3. Methods and material for containment and cleaning up

Collect as much as possible by any mechanical mean in a clean container for (preferably) reuse or disposal in accordance with local regulations. Clean the ground with any mechanical mean (brush). Do not allow cleaning water to enter into public watercourses. Wear personal protection equipment during cleaning up operations.

6.4. Reference to other sections.

See section 8 for personal protection and section 13 for disposal considerations.

7. HANDLING AND STORAGE

7.1. Precautions for safe handling

Wear protective equipments (see section 8). Avoid contact with skin and eyes.
Immediately clean spillages (see section 6); slippery floor in case of spillage on wet ground. See section 10 as well.
Needles do not form dust under normal handling conditions. Should the mechanical handling system be suspected to increase the dustiness (grinding effect for example), all engineering risk management measures have to be taken to avoid dust explosion conditions.
Do not eat, drink and smoke in work area. Remove contaminated clothing and protective equipment and wash hands before entering eating areas.

7.2. Safe storage conditions and incompatibilities

Store in stitched shut plastic bags / plastic lined paper bags, or fibre drums.
Recommended storage temperature: 40°C maximum. Do not store close to strong oxidising agents.

7.3. Specific end uses

The substance is very widely used and is not designed for any very specific uses

8. EXPOSURE CONTROLS / PERSONAL PROTECTION.

8.1. Control parameters

Occupational exposure limit value: No exposure limit has been established.

8.2. Exposure control.

Engineering controls: The general precautionary measures for handling chemicals should be observed. In particular, dust exhaust system shall be installed where handling conditions may generate dust (see 7.1.).

Personnal protective equipment

- **Respiratory:** Although needles do not produce much dust, it is advised to wear an anti-dust mask where handling of the product generates extra dust or in case of use in not well ventilated workplaces.
- **Hand:** Recommended protective gloves: Nitrile 0.4 mm, level 4 > 120 min in case of full contact.
- **Eye :** Wear eye tightly fitting safety goggles.
- **Skin and body:** Wear appropriate protective clothing, slip proof shoes.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance	Waxy needles, light yellow to white
Odour / Odour threshold	Faint soapy odour.
pH value (1% in water)	8 - 10
Melting/freezing point	No clear melting/freezing point (UVCB substance)
Boiling point	Ab 187°C @ 1010 mbar (OECD 103) on powder
Flash point	206.5 °C at 1013 mbar (EU A9) (neat substance)
Granulometry	Needles have a diameter of 0.7 to 1 mm and length from ab 1 to 15 mm
Auto-ignition temperature	>302°C (powder, VDI 2263).
Vapour pressure	Not applicable (solid)
Vapour density	Not applicable (solid)
Evaporation rate	Not applicable (solid)
Relative density	1.155 at 20 °C OECD 109 (neat substance)
Solubility in water	Ab 350 g/l at 20°C (neat substance)
Surface tension	29.9 mN/m at 1g/l, 23°C (EU A5 similar to OECD 115)
Log Po/w	<= - 2.42 at 20°C (OECD 107 computational)
Viscosity	Not applicable (solid)
Dissociation constant	pKa = 1.73 at 20°C (OECD 112)
Flammability	Product is not flammable
Explosive properties	None (no functional group with explosive properties)
Oxidising properties	None (no oxidising group present in the structure)

9.2. Other information: No other information

10. STABILITY AND REACTIVITY

10.1. Reactivity

The substance shows low reactivity as all substances of the anionic surfactants category. Contact with strong oxidising agents shall however be avoided.

10.2. Chemical stability

The substance is stable if stored and handled properly.
However, if stored at high temperature (above 50°C or between 40 and 50°C for a long period of time) or in contact with hot spots or if it enters in contact with small amount of strong acid, product may undergo acid hydrolysis and generate sulphuric acid. If this occurs, pH of the product will drop drastically.

10.3. Possibility of hazardous reaction

None if stored and handled properly with the exception of the here above described hydrolysis conditions.

10.4. Conditions to avoid

Temperatures in excess of 50°C.

10.5. Incompatible materials

Avoid contact with acids (see here above) and with strong oxidising agents.

10.6. Hazardous decomposition products

No decomposition at recommended handling temperature. However, in case of extreme hydrolysis (see here above), product may release a corrosive mixture of fatty alcohol and sulphuric acid.

11. TOXICOLOGICAL INFORMATION (from literature)

Alkylsulfates have a common metabolic fate that involves hydrolysis of the ether bond between the fatty alcohol and the sulfate group. Fatty alcohols, representing the variation in the structure of different alkylsulfates, are oxidized to the corresponding fatty acid and fed into physiological pathways like the citric acid cycle, sugar synthesis and lipid synthesis. The hydrolysis products of alkylsufates as well as the oxidised metabolites are very polar and are excreted rapidly via urine and faeces.

Information on toxicological effects

⇨ **Inhalation**

Inhalation of the product itself is not likely due to its physical form.

⇨ **Ingestion**

Acute oral toxicity LD50 : 1800 mg/kg (rat).

⇨ **Repeated dose toxicity**

Subchronic NOAEL for systemic toxicity is 488 mg/kgbw/day (Rat, oral gavage OECD 408), various studies.

⇨ **Skin contact**

Acute dermal toxicity : LD50 : 2 000 mg/ kg bw.
Existing data indicates that classification for skin irritation (R38) is justified.

⇨ **Eye contact**

Rabbit OECD 405 acute eye irritation / corrosion).
Cornea score: 2.3 of max 4 (24+48+72h) not fully reversible within 7 days.
Iris score: 1.0 of max 2 (24+48+72h) not fully reversible within 7 days.
Conjunctivae score: 2.3 of max 3 (24+48+72h) not fully reversible within 7 days.
Chemosis score: 2.9 of max 4 (24+48+72h) not fully reversible within 7 days.
Existing data indicates that classification for eye corrosion (R41) is justified.

⇨ No **sensitisation** potential was detected when tested on animals (Guinea pigs).
⇨ There is no indication of **mutagenicity**.
⇨ No **carcinogenic** (NOEL: 1125 mg/kgbw/day) or **reprotoxic** potentials have been observed.

DNEL/DMEL

Route	mg/kg bw/day	mg/m^3
Long term, workers, dermal	4060	-
Long term, workers, inhalation	-	285
Long term, consumers, oral	24	-
Long term, consumers, dermal	2440	-
Long term, consumers, inhalation	-	85

12. ECOLOGICAL INFORMATION (from literature)

12.1. Toxicity

Acute toxicity

	Effect Dose	Exposure time	Species	Method	Result mg/l
Acute Fish Tox	LC50	96 h	Oncorhynchus mykiss	OECD 203	3.6
Acute Daphnia Tox	EC50	48 h	Daphnia Magna	EG/92/69/EWG	4.7 (A Was)
Acute Algae Tox	EC50	72 h	Scenedesmus subspicatus	OECD 201	>20 (A Was)
Micro-org tox	EC10	16 h	Pseudomonas Putida	DIN 38412	1083

Long term toxicity

	Exposure time	Species	Method	Result (mg/l)	Rem
Fish Tox	45 d	Pimephales Promelas	Flow-through fresh water equivalent to OECD 210	NOEC: 0.508	
Daphnia Tox	21 d	Daphnia Magna	Fresh water static	NOEC : 0.508	QSAR model

PNEC

Water	Fresh water	0.102 mg/l
	Marine water	0.01 mg/l
	Intermittent release	0.036 mg/l
Sediment	Freshwater	3.58 mg/kg dw
	Marine water	0.358 mg/kg dw
Soil		0.654 mg/kg dw
Sewage treatment plant		1084 g/l

12.2. Persistence & Biodegradation

12.2.1 Abiotic

Substance is Readily Biodegradable.
In addition, the absence of readily hydrolysable chemical group in the structure suggests that hydrolysis and photolysis are very unlikely to be routes of elimination under normal environmental conditions (pH 4 to 9).

12.2.2 Biodegradation

12.2.2.1 Water

Substance is Readily Biodegradable.
Several test results are available showing ready biodegradability
Ex: OECD 301B Ultimate degradation (CO2 evolution Test): 75.7 % after 28 days; 60% level is reached within the 10 days window.

12.2.2.2 Sediments (equivalent to 314c).

Half-lives (DT50): 0.22 hours in water.
Substance is readily biodegradable in sediments.

12.2.2.3 Soil

In accordance with Column 2 of REACH Annex IX, tests on biodegradation in soil do not need to be conducted as the substance is readily biodegradable.

12.2.3 Adsorption/Desorption

Data on the adsorption/desorption behaviour of the substance are not available. However, in a publication by Marchesi et al. (1991) the adsorption of the main components C12 alkyl sulfate and C14 alkyl sulfate was studied. The Koc determined for C12 alkyl sulfate ranged from 316 to 446 and was found to range from 1337 to 1567 for C14 alkyl sulfate. Therefore, taking into account only the highest Koc values determined an adsorption to the solid phases of soil and sediment can not be excluded. However, the alkyl sulfates are readily biodegradable and are therefore eliminated during sewage treatment. Further, test substance reaching soil or sediment is expected to rapidly degrade.

12.3. Bioaccumulation potential

12.3.1. Aquatic

In accordance with column 2 of EC 1907/2006 Annex IX the testing on “Bioaccumulation” does not need to be performed if the test substance has a low potential for bioaccumulation (for instance a log Kow ≤ 3). The members of the category alcohol sulfates have a log Kow ≤ 3. Thus, bioaccumulation of the category members of sulphated alcohol sodium salts is not expected.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance	Waxy needles, light yellow to white
Odour / Odour threshold	Faint soapy odour.
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Evaporation rate	Not applicable (solid)
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Oxidising properties	None (no oxidising group present in the structure)

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PNEC

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	Marine water	0.01 mg/l
	Intermittent release	0.036 mg/l
Sediment	Freshwater	3.58 mg/kg dw
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Sewage treatment plant		1084 g/l

12.2. Persistence & Biodegradation

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12.2.2.3 Soil

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12.3. Bioaccumulation potential

12.3.1. Aquatic

In accordance with column 2 of EC 1907/2006 Annex IX the testing on “Bioaccumulation” does not need to be performed if the test substance has a low potential for bioaccumulation (for instance a log Kow ≤ 3). The members of the category alcohol sulfates have a log Kow ≤ 3. Thus, bioaccumulation of the category members of sulphated alcohol sodium salts is not expected.

12.2.4 Terrestrial

No data but not expected to bioaccumulate based on aquatic data.

12.4. Mobility in soil.

Not relevant (substance is readily biodegradable)

12.5. PBT and vPvB assessment

Based on data in the CSR, Sodium Lauryl Sulfate does not meet the criteria for either PBT or vPvB classification as it is readily biodegradable in the environment , has very low bioaccumulation potential, low chronic aquatic toxicity and is not classified as carcinogenic, mutagenic or toxic for reproduction.

13. DISPOSAL CONSIDERATIONS / Waste treatment methods

Product and contaminated packaging

Recycle as much as possible the recovered product. If recycling is not possible, dispose product and/or packaging according to local regulations and via authorised elimination channel (most probably controlled incineration).

14. TRANSPORT INFORMATION

Not regulated in any mode of transport

15. REGULATORY INFORMATION

15.1. Safety , health and environmental regulations/legislations specific to the substance

Wassergefährdungsklasse (WGK, Germany) : 2

15.2. Chemical Safety Assessment

A Chemical Safety Assessment has been performed as part of the Reach registration dossier.

16. OTHER INFORMATION

P Phrases

P273			Avoid release to the environment.
P280			Wear protective gloves/protective clothing/eye protection.
P310			Immediately call a POISON CENTER or doctor/physician.
P305	+351	+338	IF IN EYES : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337	+313		If eye irritation persists: get medical advise/attention
P501			Dispose of content/container according to local regulation

R Phrases

R22	Harmful if swallowed
R38	Irritating to the skin.
R41	Risk of serious damage to eye.

The information contained in this Safety Data Sheet is based on knowledge available at the time of compilation and is intended to describe the product only in terms of health and safety requirements.
It does not signify any warranty with regard to specifications.

Approved by : I. Jacquemond-Collet
Changes were made in section : 2, 7, 16

Annex to Safety Data Sheet of:

Sulfuric acid, mono-C12-14 (even numbers)-alkyl esters, sodium salt N° **G4/G5/G6** (V1)

1. Overview of exposure scenarios (ES)

ES number	ES Code	Scenario name
2.1	AISE-M1.1, AISE-M2.1, AISE-M3.1, AISE-M4.1, AISE-M5.1, AISE-M6.1, AISE-M7.1, AISE-M8.1, AISE-M9.1	AISE - Formulation of Detergents/Maintenance Products: Granular Detergent -Regular (large scale)
2.2	AISE-M1.2, AISE-M2.2, AISE-M3.2, AISE-M4.2, AISE-M5.2, AISE-M6.2, AISE-M7.2, AISE-M8.2, AISE-M9.2	AISE - Formulation of Detergents/Maintenance Products: Granular Detergent -Regular (medium scale)
2.3	AISE-M1.3, AISE-M2.3, AISE-M3.3, AISE-M4.3, AISE-M5.3, AISE-M6.3, AISE-M7.3, AISE-M8.3, AISE-M9.3	AISE - Formulation of Detergents/Maintenance Products: Granular Detergent -Regular (small scale)
2.4	AISE-M1.4, AISE-M2.4, AISE-M3.4, AISE-M4.4, AISE-M5.4, AISE-M6.4, AISE-M7.4, AISE-M8.4, AISE-M9.4	AISE - Formulation of Detergents/Maintenance Products: Granular Detergent -Compact (large scale)
2.5	AISE-M1.5, AISE-M2.5, AISE-M3.5, AISE-M4.5, AISE-M5.5, AISE-M6.5, AISE-M7.5, AISE-M8.5, AISE-M9.5	AISE - Formulation of Detergents/Maintenance Products: Granular Detergent -Compact (medium scale)
2.6	AISE-M1.6, AISE-M2.6, AISE-M3.6, AISE-M4.6, AISE-M5.6, AISE-M6.6, AISE-M7.6, AISE-M8.6, AISE-M9.6	AISE - Formulation of Detergents/Maintenance Products: Granular Detergent -Compact (small scale)
2.7	AISE-M1.7, AISE-M2.7, AISE-M3.7, AISE-M4.7, AISE-M5.7, AISE-M6.7, AISE-M7.7, AISE-M8.7, AISE-M9.7	AISE - Formulation of liqud Detergents/Maintenance Products: Low Viscosity (large scale)
2.8	AISE-M1.8, AISE-M2.8, AISE-M3.8, AISE-M4.8, AISE-M5.8, AISE-M6.8, AISE-M7.8, AISE-M8.8, AISE-M9.8	AISE - Formulation of liqud Detergents/Maintenance Products: Low Viscosity (medium scale)
2.9	AISE-M1.9, AISE-M2.9, AISE-M3.9, AISE-M4.9, AISE-M5.9, AISE-M6.9, AISE-M7.9, AISE-M8.9, AISE-M9.9	AISE - Formulation of liqud Detergents/Maintenance Products: Low Viscosity (small scale)
2.10	AISE-M1.10, AISE-M2.10, AISE-M3.10, AISE-M4.10, AISE-M5.10, AISE-M6.10, AISE-M7.10, AISE-M8.10, AISE-M9.10	AISE - Formulation of liqud Detergents/Maintenance Products: High Viscosity (large scale)
2.11	AISE-M1.11, AISE-M2.11, AISE-M3.11, AISE-M4.11, AISE-M5.11, AISE-M6.11, AISE-M7.11, AISE-M8.11, AISE-M9.11	AISE - Formulation of liqud Detergents/Maintenance Products: High Low Viscosity (medium scale)
2.12	AISE-M1.12, AISE-M2.12, AISE-M3.12, AISE-M4.12, AISE-M5.12, AISE-M6.12, AISE-M7.12, AISE-M8.12, AISE-M9.12	AISE - Formulation of liqud Detergents/Maintenance Products: High Viscosity (small scale)
2.13	AISE-P101.1, AISE-P101.2, AISE-P104.1, AISE-P104.2	Industrial use of Laundry products
2.14	AISE-P107.1, AISE-P107.2	Industrial use of Laundry products (Reactive)