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

1.1. Product identifier

Aluminium chloride hexahydrate for analysis chrystalline

REACH Registration Number: 01-2119489461-32-XXXX
CAS No: 151-21-3
EC No: 205-788-1

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

Use of the substance/mixture

Laboratory chemical
Industrial uses: Uses of substances as such or in preparations at industrial sites
Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Uses advised against

Do not use for private purposes (household).

1.3. Details of the supplier of the safety data sheet

Company name: AnalytiChem GmbH
Street: Stempelstraße 6
Place: D-47167 Duisburg
Telephone: 0203/5194-0 Telefax: 0203/5194-290
E-mail: info@analytichem.de
Contact person: Abteilung Produktsicherheit Telephone: 0203/5194-107/117
E-mail: produktsicherheit@analytichem.de
Internet: www.analytichem.de
Responsible Department: Abteilung Produktsicherheit

1.4. Emergency telephone number:

For Hazardous Materials [or Dangerous Goods] Incidents Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 Outside USA and Canada: +1 703-741-5970 (collect calls accepted)

Further Information

No data available

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Flam. Sol. 2; H228
Acute Tox. 4; H332
Acute Tox. 4; H302
Skin Irrit. 2; H315
Eye Dam. 1; H318
STOT SE 3; H335
Aquatic Chronic 3; H412

Full text of hazard statements: see SECTION 16.

2.2. Label elements

Regulation (EC) No 1272/2008

Signal word: Danger

Pictograms:

Hazard statements

H228	Flammable solid.
H302+H332	Harmful if swallowed or if inhaled.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P313	Get medical advice/attention.

2.3. Other hazards

No data available

SECTION 3: Composition/information on ingredients

3.1. Substances

Sum formula: C12H25OSO2ONa

Molecular weight: 288,37 g/mol

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
151-21-3	sodium dodecyl sulphate			100 %
	205-788-1		01-2119489461-32-XXXX	
	Flam. Sol. 2, Acute Tox. 4, Acute Tox. 4, Skin Irrit. 2, Eye Dam. 1, STOT SE 3, Aquatic Chronic 3; H228 H332 H302 H315 H318 H335 H412			

Full text of H and EUH statements: see section 16.

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
151-21-3	205-788-1	sodium dodecyl sulphate	100 %
	inhalation: ATE = 11 mg/l (vapours); inhalation: ATE = 1,5 mg/l (dusts or mists); dermal: LD50 = > 2000 mg/kg; oral: LD50 = 1200 mg/kg		

Further Information

This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of = 0.1 % (w/w).

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

No data available

After inhalation

Provide fresh air.
Call a physician immediately.

After contact with skin

Wash immediately with: Water and soap
Take off immediately all contaminated clothing and wash it before reuse.

After contact with eyes

Rinse immediately carefully and thoroughly with eye-bath or water.
Remove contact lenses, if present and easy to do. Continue rinsing.
Consult an ophthalmologist.

After ingestion

Rinse mouth immediately and drink plenty of water.
Call a physician immediately.

4.2. Most important symptoms and effects, both acute and delayed

Irritant
corrosive
Cough
Dyspnoea
Risk of serious damage to eyes.

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

No data available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings.

Unsuitable extinguishing media

no restriction

5.2. Special hazards arising from the substance or mixture

Combustible solids
Hazardous combustion products
In case of fire may be liberated:
Sulphur oxides

5.3. Advice for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing.
Avoid contact with skin, eyes and clothes.

Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.
Suppress gases/vapours/mists with water spray jet.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Provide adequate ventilation.
Use personal protection equipment.
Avoid contact with skin, eyes and clothes.
Remove persons to safety.

Emergency procedures

Do not breathe dust/fume/gas/mist/vapours/spray.

For emergency responders

Precautionary statements For emergency responders : Personal protection equipment: see section 8

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

Danger of explosion

6.3. Methods and material for containment and cleaning up

For containment

Cover drains.

Prevent spread over a wide area (e.g. by containment or oil barriers).

Collect in closed and suitable containers for disposal.

Take up carefully when dry. Take up dust-free and set down dust-free.

For cleaning up

Clean contaminated articles and floor according to the environmental legislation.

Other information

Provide adequate ventilation.

Do not breathe dust/fume/gas/mist/vapours/spray.

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

6.4. Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Avoid dust formation.

Do not breathe dust.

Read label before use.

Advice on protection against fire and explosion

Take action to prevent static discharges.

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Advice on general occupational hygiene

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme.

Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink.

Further information on handling

Wash hands and face before breaks and after work and take a shower if necessary.

Take off immediately all contaminated clothing and wash it before reuse.

Draw up and observe skin protection programme.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Store in a dry place.

Keep cool. Protect from sunlight.

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Further information on storage conditions

Keep container tightly closed.

storage temperature: +5°C - +30°C

7.3. Specific end use(s)

Laboratory chemicals

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

DNEL/DMEL values

CAS No	Substance			
DNEL type		Exposure route	Effect	Value
151-21-3	sodium dodecyl sulphate			
Worker DNEL, long-term		inhalation	systemic	285 mg/m³
Worker DNEL, long-term		dermal	systemic	4060 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	85 mg/m³
Consumer DNEL, long-term		dermal	systemic	2440 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	24 mg/kg bw/day

PNEC values

CAS No	Substance	
Environmental compartment		Value
151-21-3	sodium dodecyl sulphate	
Freshwater		0,176 mg/l
Freshwater (intermittent releases)		0,055 mg/l
Marine water		0,018 mg/l
Freshwater sediment		6,97 mg/kg
Marine sediment		0,697 mg/kg
Micro-organisms in sewage treatment plants (STP)		1,35 mg/l
Soil		1,29 mg/kg

8.2. Exposure controls

Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment.

Provide adequate ventilation as well as local exhaustion at critical locations.

Individual protection measures, such as personal protective equipment

Eye/face protection

Suitable eye protection: goggles.

Hand protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Protective gloves are recommended Company KCL GmbH, D-36124 Eichenzell, email: vertrieb@kcl.de With specification (test according to EN374):

By long-term hand contact

Trade name/designation: KCL 741 Dermatril® L

Recommended material: NBR (Nitrile rubber) 0,11 mm
Wearing time with permanent contact: > 480 min

By short-term hand contact
Trade name/designation: KCL 741 Dermatril® L
Recommended material: NBR (Nitrile rubber) 0,11 mm
Wearing time with occasional contact (splashes): > 480 min

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types. This recommendation applies only to the product stated in the safety data sheet<(>,<)> supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Skin protection

Wear suitable protective clothing.

Respiratory protection

Wear breathing apparatus if exposed to vapours/dusts/aerosols.
Filtering device with filter or ventilator filtering device of type: P2

Environmental exposure controls

Do not allow to enter into surface water or drains.
Danger of explosion

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	solid
Colour:	white
Odour:	odourless
Odour threshold:	not determined
Melting point/freezing point:	204-207 °C
Boiling point or initial boiling point and boiling range:	~216 °C
Flammability:	No data available
Lower explosion limits:	not determined
Upper explosion limits:	not determined
Flash point:	No data available
Auto-ignition temperature:	not determined
Decomposition temperature:	380 °C
pH-Value (at 20 °C):	6 - 9 (10 g/l)
Viscosity / kinematic:	not determined
Water solubility: (at 20 °C)	130 g/L
Solubility in other solvents	
not determined	
Dissolution rate:	not determined
Partition coefficient n-octanol/water:	log Pow: 0
Dispersion stability:	not determined
Vapour pressure: (at 20 °C)	< 0 hPa
Vapour pressure:	not determined
Density:	No data available
Relative density:	not determined
Bulk density:	~400 kg/m³

Relative vapour density:	not determined
Particle characteristics:	not determined

9.2. Other information

Information with regard to physical hazard classes

Explosive properties

Danger of dust explosion.

Sustaining combustion:	No data available

Self-ignition temperature

Solid:	not determined
Gas:	not applicable

Oxidizing properties

No data available

Other safety characteristics

Evaporation rate:	not determined
Solvent separation test:	not determined
Solvent content:	not determined
Solid content:	100%
Sublimation point:	not determined
Softening point:	not determined
Pour point:	not determined

not determined:

Viscosity / dynamic:	not determined
Flow time:	not determined

Further Information

not determined

SECTION 10: Stability and reactivity

10.1. Reactivity

Danger of dust explosion.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

Oxidising agent

10.4. Conditions to avoid

No data available

10.5. Incompatible materials

No data available

10.6. Hazardous decomposition products

In case of fire may be liberated:

SECTION 5: Firefighting measures

Further information

No data available

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Toxicocinetics, metabolism and distribution

No data available

Acute toxicity

Harmful if swallowed.
Harmful if inhaled.

CAS No	Chemical name					
	Exposure route	Dose		Species	Source	Method
151-21-3	sodium dodecyl sulphate					
	oral	LD50 mg/kg	1200	Rat	Other company data (1983)	OECD Guideline 401
	dermal	LD50 mg/kg	> 2000	Rat	Study report (2012)	OECD Guideline 402
	inhalation vapour	ATE	11 mg/l			
	inhalation dust/mist	ATE	1,5 mg/l			

Irritation and corrosivity

Causes skin irritation.
Causes serious eye damage.
Possible risk of irreversible effects. (eyes)

Sensitising effects

Based on available data, the classification criteria are not met.

Carcinogenic/mutagenic/toxic effects for reproduction

Based on available data, the classification criteria are not met.

STOT-single exposure

May cause respiratory irritation. (sodium dodecyl sulphate)

STOT-repeated exposure

Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met.

Information on likely routes of exposure

No data available

Specific effects in experiment on an animal

No data available

Additional information on tests

No data available

Practical experience

No data available

11.2. Information on other hazards

Endocrine disrupting properties

No data available

Other information

No data available

Further information

Irritant
corrosive
Cough
Dyspnoea
Risk of serious damage to eyes.

SECTION 12: Ecological information

12.1. Toxicity

CAS No	Chemical name						
	Aquatic toxicity	Dose		[h] | [d]	Species	Source	Method
151-21-3	sodium dodecyl sulphate						
	Acute fish toxicity	LC50	29 mg/l	96 h	Pimephales promelas	Study report (2004)	OECD Guideline 203
	Acute algae toxicity	ErC50 mg/l	> 120	72 h	Desmodesmus subspicatus	Study report (1994)	other: DIN 38412, part 9
	Acute crustacea toxicity	EC50 mg/l	3,15	48 h	Artemia salina	Journal of the Water Pollution Control F	Static mortality test on Artemia nauplii
	Fish toxicity	NOEC mg/l	>= 1,357	42 d	Pimephales promelas	Bulletin of Environmental Contamination	42 day exposure of fish in aquaria provi
	Crustacea toxicity	NOEC mg/l	0,88	7 d	Ceriodaphnia dubia	Environmental Toxicology and Water Quali	other: EPA-600/489/001 : Short term metho
	Acute bacteria toxicity	(EC50 mg/l)	135	3 h	activated sludge of a predominantly domestic sewag	Water Research 17(10): 1363-1368 (1983)	other: OECD Environment directorate prop

12.2. Persistence and degradability

95 %; 28 d; aerob
OECD 301 B
Readily biodegradable (according to OECD criteria).

12.3. Bioaccumulative potential

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
151-21-3	sodium dodecyl sulphate	0

BCF

CAS No	Chemical name	BCF	Species	Source
151-21-3	sodium dodecyl sulphate	ca. 4	Cyprinus carpio	Chemosphere 11, 917-

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

12.6. Endocrine disrupting properties

This substance does not have endocrine disrupting properties with respect to non-target organisms.

12.7. Other adverse effects

Discharge into the environment must be avoided.

Further information

Do not allow to enter into surface water or drains.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.
Send to a physico-chemical treatment facility under observation of official regulations.
Do not mix with other wastes.
Do not empty into drains.

Contaminated packaging

Handle contaminated packages in the same way as the substance itself.
The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number or ID number:	UN 1325
14.2. UN proper shipping name:	FLAMMABLE SOLID, ORGANIC, N.O.S. (sodium dodecyl sulphate)
14.3. Transport hazard class(es):	4.1
14.4. Packing group:	III
Hazard label:	4.1
Classification code:	F1
Special Provisions:	274
Limited quantity:	5 kg
Excepted quantity:	E1
Transport category:	3
Hazard No:	40
Tunnel restriction code:	E

Inland waterways transport (ADN)

14.1. UN number or ID number:	UN 1325
14.2. UN proper shipping name:	FLAMMABLE SOLID, ORGANIC, N.O.S. (sodium dodecyl sulphate)
14.3. Transport hazard class(es):	4.1
14.4. Packing group:	III
Hazard label:	4.1
Classification code:	F1
Special Provisions:	274
Limited quantity:	5 kg
Excepted quantity:	E1

Marine transport (IMDG)

14.1. UN number or ID number:	UN 1325
14.2. UN proper shipping name:	FLAMMABLE SOLID, ORGANIC, N.O.S. (sodium dodecyl sulphate)
14.3. Transport hazard class(es):	4.1
14.4. Packing group:	III
Hazard label:	4.1
Special Provisions:	223, 274
Limited quantity:	5 kg
Excepted quantity:	E1
EmS:	F-A, S-G

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number:	UN 1325
14.2. UN proper shipping name:	FLAMMABLE SOLID, ORGANIC, N.O.S. (sodium dodecyl sulphate)
14.3. Transport hazard class(es):	4.1
14.4. Packing group:	III
Hazard label:	4.1
Special Provisions:	A3 A803
Limited quantity Passenger:	10 kg
Passenger LQ:	Y443
Excepted quantity:	E1
IATA-packing instructions - Passenger:	446
IATA-max. quantity - Passenger:	25 kg
IATA-packing instructions - Cargo:	449
IATA-max. quantity - Cargo:	100 kg

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

No dangerous good in sense of this transport regulation.

14.7. Maritime transport in bulk according to IMO instruments

not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU regulatory information

Restrictions on use (REACH, annex XVII):

Entry 40

Information according to 2012/18/EU (SEVESO III): Not subject to 2012/18/EU (SEVESO III)

National regulatory information

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

Water hazard class (D): 2 - obviously hazardous to water

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 9,12.

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 Harmonized System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service
LC50: Lethal concentration, 50%
LD50: Lethal dose, 50%
Flam. Sol: Flammable solid
Acute Tox: Acute toxicity
Skin Irrit: Skin irritation
Eye Dam: Eye damage
STOT SE: Specific target organ toxicity - single exposure
Aquatic Chronic: Chronic aquatic hazard

Relevant H and EUH statements (number and full text)

H228	Flammable solid.
H302	Harmful if swallowed.
H302+H332	Harmful if swallowed or if inhaled.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H412	Harmful to aquatic life with long lasting effects.

Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material. The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights.
The receiver of our product is singularly responsible for adhering to existing laws and regulations.