Sulphuric acid 96%

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Date of issue: 6/10/2015 Revision date: 9/5/2017 Supersedes: 7/14/2015 Version: 1.5

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

1.1. Product identifier

Trade name	:	Sulphuric acid 96%
Chemical name	:	sulphuric acid ... %
EC Index-No.	:	016-020-00-8
EC-No.	:	231-639-5
CAS-No.	:	7664-93-9
REACH registration No	:	01-2119458838-20
Product code	:	99400
Formula	:	H2SO4
Synonyms	:	hydrogen sulfite

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

1.2.1. Relevant identified uses

Industrial/Professional use spec	:	Industrial For professional use only
Use of the substance/mixture	:	Industrial use

Title	Use descriptors
Industrial use	SU3, SU21

Full text of use descriptors: see section 16

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Breustedt Chemie B.V.
IJsseldijk 28
7325 WZ Apeldoorn - Nederland
T 055-5332844
strijker@breustedt.nl - www.breustedt.nl

1.4. Emergency telephone number

Emergency number : +31(0)653244323 Breustedt Chemie

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Skin corrosion/irritation, Category 1A H314

Full text of H statements : see section 16

Specific concentration limits:

(5 =<C < 15)	Eye Irrit. 2, H319
(5 =<C < 15)	Skin Irrit. 2, H315
(C >= 15)	Skin Corr. 1A, H314

Adverse physicochemical, human health and environmental effects

Causes severe skin burns and eye damage.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :

GHS05

Signal word (CLP) : Danger

Hazard statements (CLP) : H314 - Causes severe skin burns and eye damage

Precautionary statements (CLP) : P280 - Wear protective gloves/protective clothing/eye protection/face protection
P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with 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
P310 - Immediately call a POISON CENTER/Doctor
P321 - Specific treatment (see first aid instruction on this label)

2.3. Other hazards

PBT: not relevant – no registration required

vPvB: not relevant – no registration required

SECTION 3: Composition/information on ingredients

3.1. Substances

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Sulphuric acid	(CAS-No.) 7664-93-9 (EC-No.) 231-639-5 (EC Index-No.) 016-020-00-8 (REACH-no) 01-2119458838-20	96	Skin Corr. 1A, H314

Specific concentration limits:

Name	Product identifier	Specific concentration limits
Sulphuric acid	(CAS-No.) 7664-93-9 (EC-No.) 231-639-5 (EC Index-No.) 016-020-00-8 (REACH-no) 01-2119458838-20	(5 =<C < 15) Eye Irrit. 2, H319 (5 =<C < 15) Skin Irrit. 2, H315 (C >= 15) Skin Corr. 1A, H314

Full text of H-statements: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Call a physician immediately. Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.

First-aid measures after skin contact : Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing. Call a physician immediately. Immediately call a POISON CENTER or doctor/physician.

First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately. Immediately call a POISON CENTER or doctor/physician.

First-aid measures after ingestion : Rinse mouth. Do not induce vomiting. Call a physician immediately. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.

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

Symptoms/effects : Causes severe skin burns and eye damage.

Symptoms/effects after inhalation : Corrosive to the respiratory tract.

Symptoms/effects after skin contact : Burns.

Symptoms/effects after eye contact : Serious damage to eyes. Visual disturbances. Causes serious eye damage.

Symptoms/effects after ingestion : Abdominal pain. Nausea. Burns. Burns to the gastric/intestinal mucosa.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide. Sand.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Not flammable.

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing. Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapours/spray. Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection". Equip cleanup crew with proper protection.

Emergency procedures : Ventilate area.

6.2. Environmental precautions

Avoid release to the environment. Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13. See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapours/spray. Wear personal protective equipment. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour. Avoid contact during pregnancy/while nursing.

Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Wash hands thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Comply with applicable regulations.

Storage conditions : Store locked up. Store in a well-ventilated place. Keep cool. Keep only in the original container in a cool, well ventilated place away from : Keep container closed when not in use.

Incompatible products : Strong bases. Strong acids.

Incompatible materials : Sources of ignition. Direct sunlight.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Sulphuric acid 96% (7664-93-9)	
DNEL/DMEL (Workers)	
Acute - local effects, inhalation	0.1 mg/m³
Long-term - local effects, inhalation	0.05 mg/m³
PNEC (Water)	
PNEC aqua (freshwater)	0.0025 mg/l
PNEC aqua (marine water)	0.00025 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	0.002 mg/kg dwt

Sulphuric acid 96% (7664-93-9)	
PNEC sediment (marine water)	0.002 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	8.8 mg/l

8.2. Exposure controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

Personal protective equipment:

Avoid all unnecessary exposure.

Hand protection:

Protective gloves. Wear protective gloves

Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Disposable gloves	Nitrile rubber (NBR), Polyvinylchloride (PVC)				EN 374-3

Eye protection:

Chemical goggles or face shield. Safety glasses

Type	Use	Characteristics	Standard
Safety goggles			EN 166

Skin and body protection:

Wear suitable protective clothing

Type	Standard
	EN ISO 17491-3

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment. Wear appropriate mask

Device	Filter type	Condition	Standard
	Type P3		EN 140, EN 405, EN 143, EN 149

Environmental exposure controls:

Avoid release to the environment.

Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Molecular mass	:	98.1 g/mol
Colour	:	Colourless. light yellow.
Odour	:	odourless.
Odour threshold	:	No data available
pH	:	0
Relative evaporation rate (butylacetate=1)	:	No data available
Melting point	:	Not applicable
Freezing point	:	-13.8 (20%) / -33.5 (51%)
Boiling point	:	104 (20%) / 125 (51%)
Flash point	:	No data available
Auto-ignition temperature	:	No data available

Decomposition temperature	:	No data available
Flammability (solid, gas)	:	Not applicable,Non flammable.
Vapour pressure	:	No data available
Relative vapour density at 20 °C	:	No data available
Relative density	:	No data available
Density	:	1.84 kg/l
Solubility	:	Soluble in water.
Log Pow	:	No data available
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	1.5 (20%) / 1.4049 (51%)
Explosive properties	:	No data available
Oxidising properties	:	No data available
Explosive limits	:	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Reacts violently with (strong) reducers. Reacts with (some) bases. Thermal decomposition generates : Corrosive vapours.

10.2. Chemical stability

Stable under normal conditions. Not established.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use. Not established.

10.4. Conditions to avoid

Stable at normal conditions. zie rubriek 7. Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

metals. . Strong acids. Strong bases.

10.6. Hazardous decomposition products

sulphur dioxide. Under normal conditions of storage and use, hazardous decomposition products should not be produced. fume. Carbon monoxide. Carbon dioxide. Thermal decomposition generates : Corrosive vapours.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	:	Not classified
Acute toxicity (dermal)	:	Not classified
Acute toxicity (inhalation)	:	Not classified
Skin corrosion/irritation	:	Causes severe skin burns and eye damage. pH: 0
Serious eye damage/irritation	:	Serious eye damage, category 1, implicit pH: 0
Respiratory or skin sensitisation	:	Not classified
Additional information	:	Based on available data, the classification criteria are not met
Germ cell mutagenicity	:	Not classified
Additional information	:	Based on available data, the classification criteria are not met
Carcinogenicity	:	Not classified
Additional information	:	Based on available data, the classification criteria are not met
Reproductive toxicity	:	Not classified
Additional information	:	Based on available data, the classification criteria are not met
STOT-single exposure	:	Not classified
Additional information	:	Based on available data, the classification criteria are not met
STOT-repeated exposure	:	Not classified
Additional information	:	Based on available data, the classification criteria are not met
Aspiration hazard	:	Not classified
Additional information	:	Based on available data, the classification criteria are not met

Potential adverse human health effects and symptoms : Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - water : The non-neutralized product may be harmful to aquatic organisms

Ecology - water : Toxic to aquatic life with long lasting effects.

Acute aquatic toxicity : Not classified

Chronic aquatic toxicity : Not classified

Sulphuric acid 96% (7664-93-9)	
LC50 fish 1	16 mg/l
EC50 Daphnia 1	> 100 ml/l
ErC50 (algae)	> 100 mg/l
NOEC chronic fish	0.025 mg/l
NOEC chronic crustacea	0.15
NOEC chronic algae	100

12.2. Persistence and degradability

Sulphuric acid 96% (7664-93-9)	
Persistence and degradability	May cause long-term adverse effects in the environment.

12.3. Bioaccumulative potential

Sulphuric acid 96% (7664-93-9)	
Bioaccumulative potential	No bioaccumulation data available. Not established.

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

Sulphuric acid 96% (7664-93-9)
PBT: not relevant – no registration required
vPvB: not relevant – no registration required

12.6. Other adverse effects

Additional information : Avoid release to the environment

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container toa certified waste disposal depot.

Ecology - waste materials : Avoid release to the environment.

European List of Waste (LoW) code : 06 01 01* - sulphuric acid and sulphurous acid

SECTION 14: Transport information

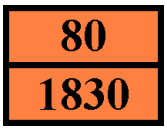
In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
1830	1830	1830	1830	1830
14.2. UN proper shipping name				
SULPHURIC ACID	SULPHURIC ACID	Sulphuric acid	SULPHURIC ACID	SULPHURIC ACID
Transport document description				
UN 1830 SULPHURIC ACID, 8, II, (E)	UN 1830 SULPHURIC ACID, 8, II	UN 1830 Sulphuric acid, 8, II	UN 1830 SULPHURIC ACID, 8, II	UN 1830 SULPHURIC ACID, 8, II
14.3. Transport hazard class(es)				
8	8	8	8	8
				

ADR	IMDG	IATA	ADN	RID
14.4. Packing group				
II	II	II	II	II
14.5. Environmental hazards				
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No	Dangerous for the environment : No	Dangerous for the environment : No
No supplementary information available				

14.6. Special precautions for user

- Overland transport

Classification code (ADR)	:	C1
Limited quantities (ADR)	:	1l
Excepted quantities (ADR)	:	E2
Packing instructions (ADR)	:	P001, IBC02
Mixed packing provisions (ADR)	:	MP15
Portable tank and bulk container instructions (ADR)	:	T8
Portable tank and bulk container special provisions (ADR)	:	TP2
Tank code (ADR)	:	L4BN
Vehicle for tank carriage	:	AT
Transport category (ADR)	:	2
Hazard identification number (Kemler No.)	:	80
Orange plates	:	
Tunnel restriction code (ADR)	:	E
EAC code	:	2P

- Transport by sea

Limited quantities (IMDG)	:	1 L
Excepted quantities (IMDG)	:	E2
Packing instructions (IMDG)	:	P001
IBC packing instructions (IMDG)	:	IBC02
IBC special provisions (IMDG)	:	B20
Tank instructions (IMDG)	:	T8
Tank special provisions (IMDG)	:	TP2
EmS-No. (Fire)	:	F-A
EmS-No. (Spillage)	:	S-B
Stowage category (IMDG)	:	C
Stowage and handling (IMDG)	:	SW15
Properties and observations (IMDG)	:	Colourless, oily liquid, mixture over 1.41 up to 1.84 relative density. In the presence of moisture, highly corrosive to most metals. Causes burns to skin, eyes and mucous membranes.

- Air transport

PCA Excepted quantities (IATA)	:	E2
PCA Limited quantities (IATA)	:	Y840
PCA limited quantity max net quantity (IATA)	:	0.5L
PCA packing instructions (IATA)	:	851
PCA max net quantity (IATA)	:	1L
CAO packing instructions (IATA)	:	855
CAO max net quantity (IATA)	:	30L
ERG code (IATA)	:	8L

- Inland waterway transport

Classification code (ADN)	:	C1
Limited quantities (ADN)	:	1 L
Excepted quantities (ADN)	:	E2

Carriage permitted (ADN)	:	T
Equipment required (ADN)	:	PP, EP
Number of blue cones/lights (ADN)	:	0

- Rail transport

Classification code (RID)	:	C1
Limited quantities (RID)	:	1L
Excepted quantities (RID)	:	E2
Packing instructions (RID)	:	P001, IBC02
Mixed packing provisions (RID)	:	MP15
Portable tank and bulk container instructions (RID)	:	T8
Portable tank and bulk container special provisions (RID)	:	TP2
Tank codes for RID tanks (RID)	:	L4BN
Transport category (RID)	:	2
Colis express (express parcels) (RID)	:	CE6
Hazard identification number (RID)	:	80

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

The following restrictions are applicable according to Annex XVII of the REACH Regulation (EC) No 1907/2006:

3. Liquid substances or mixtures which are regarded as dangerous in accordance with Directive 1999/45/EC or are fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008	Sulphuric acid 96%
3(b) Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10	Sulphuric acid 96%

Sulphuric acid 96% is not on the REACH Candidate List

15.1.2. National regulations

Germany

VwVwS Annex reference	:	Water hazard class (WGK) 1, low hazard to waters (Classification according to VwVwS, Annex 1 or 2; ID No. 182)
12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV	:	Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Netherlands

SZW-lijst van kankerverwekkende stoffen	:	Sulphuric acid is listed
SZW-lijst van mutagene stoffen	:	The substance is not listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding	:	The substance is not listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid	:	The substance is not listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling	:	The substance is not listed

Denmark

Recommendations Danish Regulation	:	Young people below the age of 18 years are not allowed to use the product

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Abbreviations and acronyms:

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
DPD	Dangerous Preparations Directive 1999/45/EC
DSD	Dangerous Substances Directive 67/548/EEC
EC50	Median effective concentration
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
STP	Sewage treatment plant
TLM	Median Tolerance Limit
SDS	Safety Data Sheet
vPvB	Very Persistent and Very Bioaccumulative

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Other information : None.

Full text of H- and EUH-statements:

Skin Corr. 1A	Skin corrosion/irritation, Category 1A
H314	Causes severe skin burns and eye damage
SU21	Consumer uses: Private households (= general public = consumers)
SU3	Industrial uses: Uses of substances as such or in preparations* at industrial sites

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product