



Be Right™

SAFETY DATA SHEET

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)

Issue Date 02-Feb-2005

Revision Date 05-Aug-2024

Version 4.3

Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product Code(s) LCW834
Product Name LCW 834 Phosphax compact, Reagenz/Reagent/Réactif; 1/1
Unique Formula Identifier (UFI) XK6D-WF4S-W80W-510Q
Molecular weight Not applicable

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

Recommended Use Indicator for phosphate.
Uses advised against Consumer use

1.3. Details of the supplier of the safety data sheet

Supplier

HACH LANGE GmbH
Willstätterstr. 11
D-40549 Düsseldorf
Tel: +49 (0)211 5288-383
sds@hach.com

Responsible country contact:

HACH UK
Laser House
Ground Floor, Suite B
Waterfront Quay, Salford Quays
GB - Manchester, M50 3XW
Tel. +44 (0) 161 872 1487
info-uk@hach.com

HACH Ireland
Unit 34 GB Business Park
Little Island
IRL-Co. Cork
T45 H681
Tel. +353 (0)146 02 522
info-ie@hach.com

1.4. Emergency telephone number

UK: Chemtrec: +44 20 3807 3798
IE: National Poisons Information Centre (NPIC) 01 809 2566 (24/7)

Section 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

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

Corrosive to metals	Category 1 - (H290)
Skin corrosion/irritation	Category 1 Sub-category A - (H314)
Serious eye damage/eye irritation	Category 1 - (H318)

2.2. Label elements

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

Contains Sulfuric acid 30%



Signal word

Danger

Hazard statements

H290 - May be corrosive to metals

H314 - Causes severe skin burns and eye damage

Precautionary statements

P260 - Do not breathe dust/fume/gas/mist/vapours/spray

P280 - Wear protective gloves/protective clothing and eye/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 [or shower]

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 or doctor

P390 - Absorb spillage to prevent material damage

2.3. Other hazards

No information available.

PBT & vPvB

This mixture contains no substance considered to be persistent, bioaccumulating or toxic (PBT)

This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB)

Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors.

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable

3.2 Mixtures

Chemical name	CAS No. EC No. Index No.	Weight-%	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
Sulfuric acid	7664-93-9 231-639-5 016-020-00-8	30 - 40%	Skin Corr. 1A - H314 Eye Dam. 1 - H318	Eye Irrit. 2 :H319: 5%≤C<15% Skin Corr. 1A :H314: C≥15% Skin Irrit. 2 :H315: 5%≤C<15%	-	-
Molybdate, hexaammonium, tetrahydrate	12054-85-2 - -	1 - 5%	Acute Tox. 4 - H302 Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 STOT SE 3 - H335		-	-

Full text of H- and EUH-phrases: see section 16Acute Toxicity Estimate

No information available

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50 - 4 hour - dust/mist - mg/L	Inhalation LC50 - 4 hour - vapour - mg/L	Inhalation LC50 - 4 hour - gas - ppm
Ammonium vanadate 7803-55-6	58.1 mg/kg	2102 mg/kg	0.0078 mg/L	None reported	None reported

Section 4: FIRST AID MEASURES**4.1. Description of first aid measures****General advice**

Show this safety data sheet to the doctor in attendance. Immediate medical attention is required. Take off contaminated clothing and shoes immediately.

Inhalation

Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. If breathing is difficult, (trained personnel should) give oxygen. Get medical attention immediately if symptoms occur.

Eye contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get immediate medical attention.

Skin contact

Immediately flush eyes or skin with plenty of water for at least 15 minutes while removing

	contaminated clothing and shoes. Get immediate medical attention.
Ingestion	Rinse mouth. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Get immediate medical attention.
Self-protection of the first aider	Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8). Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

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

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

Note to doctors	Treat symptomatically.
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Section 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Product itself does not burn.
Unsuitable extinguishing media	No information available.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical	The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapours.
Hazardous combustion products	Ammonia. nitrogen oxides. Sulphur oxides.

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.
Additional information	Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Section 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Attention! Corrosive material. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
For emergency responders	Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions	Prevent further leakage or spillage if safe to do so. Should not be released into the environment. Do not allow to enter into soil/subsoil. Prevent product from entering drains.
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6.3. Methods and material for containment and cleaning up

Methods for containment	Prevent further leakage or spillage if safe to do so.
Methods for cleaning up	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Place in appropriate chemical waste container. Take up mechanically, placing in appropriate containers for disposal.
Prevention of secondary hazards	Clean contaminated objects and areas thoroughly observing environmental regulations.
6.4. Reference to other sections	
Reference to other sections	See section 8 for more information. See section 13 for more information.

Section 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling	Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Avoid breathing dust/fume/gas/mist/vapours/spray. In case of insufficient ventilation, wear suitable respiratory equipment. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash it before reuse.
General hygiene considerations	Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Wash hands before breaks and after work. Barrier creams may help to protect the exposed areas of skin.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions	Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture. Keep out of the reach of children. Store away from other materials.
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7.3. Specific end use(s)

Specific use(s)	Analytical reagent.
Risk Management Methods (RMM)	The information required is contained in this Safety Data Sheet.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure Limits

Chemical name	European Union	United Kingdom	Ireland
Sulfuric acid 7664-93-9	TWA: 0.05 mg/m ³	TWA: 0.05 mg/m ³ STEL: 0.15 mg/m ³	TWA: 0.05 ppm STEL: 0.15 ppm
Molybdate, hexaammonium, tetrahydrate 12054-85-2	-	TWA: 5 mg/m ³ STEL: 10 mg/m ³	TWA: 10 mg/m ³ TWA: 0.5 mg/m ³ STEL: 30 mg/m ³ STEL: 1.5 mg/m ³

Information on monitoring	Refer to European Standard EN 14042 (Workplace atmospheres - Guide for the application)
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procedures and use of procedures for the assessment of exposure to chemical and biological agents) or equivalent national standard(s).

Derived No Effect Level (DNEL) No information available

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Engineering controls Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Personal protective equipment
Eye/face protection

Wear safety glasses with side shields (or goggles).

Hand protection

Barrier creams may help to protect the exposed areas of skin. Wear suitable gloves. Gloves must be inspected prior to use. The selected protective gloves have to satisfy the specifications of EU Directive 2016/425 and the standard EN 374-1:2016 derived from it. Chemical resistant gloves made of butyl rubber or nitrile rubber category III acco.

Gloves			
Duration of contact	PPE - Glove material	Glove thickness	Break through time
Long term (repeated)	Wear protective Viton™ gloves	0,70 mm	>480 minutes
Short term	Wear protective nitrile rubber gloves	0,20 mm	>30 minutes

Skin and body protection Avoid contact with eyes, skin and clothing. Wash contaminated clothing before reuse. Long sleeved clothing.

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

Recommended filter type: ABEK-P3.

General hygiene considerations Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Wash hands before breaks and after work. Barrier creams may help to protect the exposed areas of skin.

Environmental exposure controls Do not allow into any sewer, on the ground or into any body of water.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state Liquid

Colour yellow

Odour Odourless

Odour threshold Not applicable

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Molecular weight	Not applicable	
pH	< 1	@ 20 °C
Melting point / freezing point	< -4 °C / 24.8 °F	
Initial boiling point and boiling range	119 °C / 246.2 °F	
Evaporation rate	No data available	
Vapour pressure	15.002 mm Hg / 2 kPa at 20 °C / 68 °F	
Relative vapor density	No data available	
Partition coefficient	No data available	
Soil Organic Carbon-Water Partition Coefficient	No data available	
Autoignition temperature	No data available	
Decomposition temperature	No data available	
Dynamic viscosity	No data available	
Kinematic viscosity	No data available	
Relative density	1.2322 g/mL	@ 20 °C

Solubility(ies)**Water solubility**

<u>Water solubility classification</u>	<u>Water solubility</u>	<u>Water Solubility Temperature</u>
Soluble	> 1000 mg/L	25 °C / 77 °F

Solubility in other solvents

<u>Chemical Name</u>	<u>Solubility classification</u>	<u>Solubility</u>	<u>Solubility Temperature</u>
Acid	Soluble	> 1000 mg/L	25 °C / 77 °F

Metal Corrosivity

Classified as corrosive to metal according to CLP criteria

Steel Corrosion Rate

286.33 mm/yr / 11.27 in/yr

Aluminum Corrosion Rate

No data available

Explosive properties**Upper explosion limit**

No data available

Lower explosion limit

No data available

Flammable properties**Flash point**

No data available

Flammability**Upper flammability limit:**

No data available

Lower flammability limit

No data available

Oxidising properties No data available.

Bulk density Not applicable

9.2. Other information

No information available.

Section 10: STABILITY AND REACTIVITY

10.1. Reactivity

Reactivity Corrosive to metal.

10.2. Chemical stability

Stability Stable under normal conditions.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

Hazardous polymerisation Hazardous polymerisation does not occur.

10.4. Conditions to avoid

Conditions to avoid Exposure to air or moisture over prolonged periods.

10.5. Incompatible materials

Incompatible materials Bases. Oxidising agent.

10.6. Hazardous decomposition products

Hazardous Decomposition Products Thermal decomposition can lead to release of irritating and toxic gases and vapours.

Section 11: TOXICOLOGICAL INFORMATION

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

Acute toxicity

Based on available data, the classification criteria are not met

Mixture No data available.

Substance No data available.

Oral Exposure Route:

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Molybdate, hexaammonium, tetrahydrate	Rat LD ₅₀	354 mg/kg	None reported	None reported	No information available
Ammonium vanadate	Rat LD ₅₀	58.1 mg/kg	None reported	Behavioral Somnolence (general depressed activity)	ChemADVISOR

				Gastrointestinal Hypermotility Diarrhoea Nutritional and Gross Metabolic Body temperature decrease	
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Dermal Exposure Route:

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Ammonium vanadate	Rat LD ₅₀	2102 mg/kg	None reported	Behavioral Somnolence (general depressed activity) Gastrointestinal Hypermotility Diarrhoea Nutritional and Gross Metabolic Body temperature decrease	HSDB

Inhalation (Dust/Mist) Exposure Route:

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Ammonium vanadate	Rat LC ₅₀	0.0078 mg/L	4 hours	None reported	LOLI

Acute Toxicity Estimate (ATE) Not applicable
mg/kg

ATEmix (inhalation-dust/mist)	7.80 mg/l
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Unknown acute toxicity

0 % of the mixture consists of ingredient(s) of unknown toxicity.

- 0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
- 0 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
- 0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)
- 0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapour)
- 0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

Skin corrosion/irritation

Causes severe burns.

Mixture No data available.

Substance Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Sulfuric acid	Existing human experience	Human	None reported	None reported	Corrosive to skin	HSDB

Serious eye damage/eye irritation

Classification based on data available for ingredients. Causes burns. Risk of serious damage to eyes.

Mixture No data available.

Substance Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Sulfuric acid	Existing human experience	Human	None reported	None reported	Corrosive to eyes	HSDB

Respiratory or skin sensitisation

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

Mixture No data available.

Substance No data available.

STOT - single exposure

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

Mixture No data available.

Substance Test data reported below.

Inhalation (Vapor) Exposure Route:

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sulfuric acid	Human TD _{Lo}	0.144 mg/L	5 minutes	Lungs, Thorax, or Respiration Dyspnea	RTECS

STOT - repeated exposure

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

Mixture No data available.

Substance Test data reported below.

Oral Exposure Route:

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Ammonium vanadate	Rat TD _{Lo}	4630 mg/kg	90 days	Behavioral Food intake Blood Pigmented or nucleated red blood cells Changes in erythrocyte (RBC) count	RTECS

Inhalation (Dust/Mist) Exposure Route:

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Molybdate, hexaammonium, tetrahydrate	Rat TC _{Lo}	0.060 mg/L	119 days	Blood Changes in erythrocyte (RBC) count	No information available

				Biochemical Enzyme inhibition, induction, or change in blood or tissue levels (dehydrogenases)	
Ammonium vanadate	Rat TC _{Lo}	4.59 mg/m ³	4 days	Lungs, Thorax, or Respiration Other changes Immunological Including Allergic Decrease in cellular immune response	RTECS

Inhalation (Vapor) Exposure Route:

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sulfuric acid	Human TC _{Lo}	0.003 mg/L	168 days	Musculoskeletal Changes in teeth and supporting structures	RTECS

Germ cell mutagenicity

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

Mixture invitro **Data** No data available.

Substance invitro **Data** Test data reported below.

Chemical name	Test	Cell Strain	Reported dose	Exposure time	Results	Key literature references and sources for data
Sulfuric acid	Cytogenetic analysis	Hamster ovary	4 mmol/L	None reported	Positive test result for mutagenicity	No information available
Ammonium vanadate	DNA damage	Human lymphocyte	0.2 mmol/L	None reported	Positive test result for mutagenicity	RTECS

Mixture invivo **Data** No data available.

Substance invivo **Data** Test data reported below.

Oral Exposure Route:

Chemical name	Test	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Ammonium vanadate	Micronucleus test	Mouse	50 mg/kg	None reported	Positive test result for mutagenicity	RTECS

Carcinogenicity

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

Mixture No data available.

Substance No data available.

Reproductive toxicity

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

Mixture No data available.

Substance Test data reported below.

Oral Exposure Route:

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Ammonium vanadate	Rat	20 mg/kg	70 days	Death Post-implantation mortality (e.g. dead and/or resorbed implants per total number of implants) Female fertility index (e.g. # females pregnant per # sperm positive females; # females pregnant per # females mated) Female fertility index (e.g. # females pregnant per # sperm positive females; # females pregnant per # females mated)	No information available

Inhalation (Vapor) Exposure Route:

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sulfuric acid	Rabbit TC _{Lo}	0.02 mg/L	7 hours	Specific Developmental Abnormalities Musculoskeletal system	No information available

Aspiration hazard

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

11.2. Information on other hazards

Other dangerous properties can not be excluded. Handle in accordance with good industrial hygiene and safety practice.

11.2.1. Endocrine disrupting properties

Endocrine disrupting properties This product does not contain any known or suspected endocrine disruptors.

11.2.2. Other information

Other adverse effects No information available.

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

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

Unknown aquatic toxicity Contains 0 % of components with unknown hazards to the aquatic environment.

Mixture

Acute aquatic toxicity: No data available.

Aquatic Chronic Toxicity: No data available.

Substance

Acute aquatic toxicity: Test data reported below.

Fish:

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Molybdate, hexaammonium, tetrahydrate	96 hours	<i>Oncorhynchus mykiss</i>	LC ₅₀	320 mg/L	No information available
Ammonium vanadate	96 hours	None reported	LC ₅₀	2.6 mg/L	EPA

Algae:

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Molybdate, hexaammonium, tetrahydrate	72 Hours	<i>Desmodesmus subspicatus</i>	EC ₅₀	41 mg/L	No information available

Aquatic Chronic Toxicity: No data available.

12.2. Persistence and degradability

Mixture No data available.

12.3. Bioaccumulative potential

Mixture: No data available.

Partition coefficient No data available

12.4. Mobility in soil

Soil Organic Carbon-Water Partition Coefficient No data available

12.5. Results of PBT and vPvB assessment

The components in this formulation do not meet the criteria for classification as PBT or vPvB.

Chemical name	PBT and vPvB assessment
Sulfuric acid	The substance is not PBT / vPvB
Molybdate, hexaammonium, tetrahydrate	The substance is not PBT / vPvB
Ammonium vanadate	PBT assessment does not apply

12.6. Endocrine disrupting properties

Endocrine Disruptor Information: This product does not contain any known or suspected endocrine disruptors

12.7. Other adverse effects

No information available.

Ozone: Not applicable

Ozone depletion potential (ODP): No information available

Section 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods**Advice on Disposal**

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Waste disposal number (residues/unused products)

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste.

Waste disposal number (used product)

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste.

Contaminated packaging Dispose of contents/containers in accordance with local regulations.

Other Information Waste codes should be assigned by the user based on the application for which the product was used.

Section 14: TRANSPORT INFORMATION**ADR**

14.1 UN number or ID number	2796
14.2 UN proper shipping name	SULPHURIC ACID
14.3 Transport hazard class(es)	8
14.4 Packing Group	II
14.5 Environmental hazards	No
14.6 Special precautions for user	
Special Provisions	None
Classification code	C1
Tunnel restriction code	(E)

IATA

14.1 UN number or ID number	UN2796
14.2 UN proper shipping name	Sulphuric acid
14.3 Transport hazard class(es)	8
14.4 Packing group	II
14.5 Environmental hazards	No
14.6 Special precautions for user	
Special Provisions	None

IMDG

14.1 UN number or ID number	UN2796
14.2 UN proper shipping name	SULPHURIC ACID
14.3 Transport hazard class(es)	8
14.4 Packing Group	II
14.5 Environmental hazards	No
14.6 Special precautions for user	
Special Provisions	None
EmS-No	F-A, S-B
14.7 Maritime transport in bulk according to IMO instruments	No information available

Additional information

Not applicable

Section 15: REGULATORY INFORMATION**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulations****European Union**

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

Take note of Directive 94/33/EC on the protection of young people at work

Chemical name	Restricted substance per REACH Annex XVII	Substance subject to authorisation per REACH Annex XIV
Sulfuric acid - 7664-93-9	Use restricted. See entry 75.	
Ammonium vanadate - 7803-55-6	Use restricted. See entry 65.	

Persistent Organic Pollutants Not applicable

Dangerous substance category per Seveso Directive (2012/18/EU)

- Non-controlled

Ozone-depleting substances (ODS) regulation (EC) 1005/2009

Not applicable

Germany

Water hazard class (WGK) slightly hazardous to water (WGK 1)

France**Occupational Illnesses (R-463-3, France)**

Chemical name	French RG number	Title
Sulfuric acid 7664-93-9	RG 5, RG 14, RG 15, RG 15bis, RG 20bis RG 14, RG 20bis, RG 65	-

International Inventories

EINECS/ELINCS	Complies
TSCA	Complies
DSL/NDL	Complies
ENCS	Complies

IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

15.2. Chemical safety assessment

Chemical Safety Report Chemical safety assessments for substances in this mixture were not carried out.

Section 16: OTHER INFORMATION

Issue Date	02-Feb-2005
Revision Date	05-Aug-2024
Revision Note	updated SDS sections: 2 8 11 12

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend

**	Hazard Designation
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieure
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
CAS	Chemical Abstracts Service Number
Ceiling	Maximum limit value
CLP	Classification, Labelling and Packaging of substances and mixtures [Regulation (EC) No. 1272/2008]
DNEL	Derived No Effect Level (DNEL)
EC	European Community
ECHA	ECHA (The European Chemicals Agency)
EC50	Effective Concentration to 50% of a test population
EEC	European Economic Community
EN	European Standard
IMDG	International Maritime Dangerous Goods (IMDG)
IATA	International Air Transport Association (IATA)
IATA-DGR	International Air Transport Association - Dangerous Goods Regulations
ICAO	International Civil Aviation Organization
ICAO-TI	International Civil Aviation Organization - Technical Instructions
IUCLID	IUCLID (The International Uniform Chemical Information Database)
GHS	Globally Harmonized System of Classification and Labelling of Chemicals
LOAEL	Lowest observed adverse effect level

LOAEC	Lowest observed adverse effect concentration
LC50	Lethal Concentration to 50% of a test population
LD50	Lethal Dose to 50% of a test population (Median Lethal Dose)
LOLI	LOLI (List of Lists - An International Chemical Regulatory Database)
MAK	Maximale Arbeitsplatz-Konzentration, a German expression corresponding to threshold limit value, which relates to safe daily exposure levels to chemical substances
NOAEL	NOAEL (No observed adverse effect level)
NOAEC	No observed adverse effect concentration
OSHA	OSHA (Occupational Safety and Health Administration of the US Department of Labour)
PEC	Predicted Effect Concentration
PNEC	Predicted No Effect Concentration (PNEC)
PBT	Persistent, Bioaccumulative, and Toxic (PBT) Chemicals
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals [Regulation (EC) No. 1907/2006]
RTECS	RTECS (Registry of Toxic Effects of Chemical Substances)
TWA	TWA (time-weighted average)
SKN*	Skin designation
SKN+	Skin sensitisation
STEL	STEL (Short Term Exposure Limit)
STOT	Specific Target Organ Toxicity
STOT RE	Specific target organ toxicity — repeated exposure
STOT SE	Specific target organ toxicity — single exposure
SVHC	Substances of Very High Concern
TLV	Threshold Limit Value
TRGS	Technical rules for hazardous substances, Germany
TSCA	Toxic Substances Control Act
UN	United Nations
vPvB	very persistent and very bioaccumulative
VOC	Volatile organic compounds
AwSV	Administrative regulation of water polluting substances, Germany

Key literature references and sources for data

See Section 11: TOXICOLOGICAL INFORMATION

See Section 12: ECOLOGICAL INFORMATION

Classification procedure

Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - Vapour	Calculation method
Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	Calculation method
Serious eye damage/eye irritation	Calculation method
Respiratory sensitisation	Calculation method
Skin sensitisation	Calculation method
Mutagenicity	Calculation method
Carcinogenicity	Calculation method
Reproductive toxicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method
Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method
Aspiration toxicity	Calculation method
Ozone	Calculation method
Corrosive to metals	Calculation method

Full text of H-Statements referred to under section 3

H302 - Harmful if swallowed

H314 - Causes severe skin burns and eye damage

H315 - Causes skin irritation

H318 - Causes serious eye damage

H319 - Causes serious eye irritation

H290 - May be corrosive to metals

Training Advice

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

Prepared By

Hach Product Compliance Department

Restrictions on use

For Laboratory Use Only.

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

End of Safety Data Sheet