SAFETY DATA SHEET

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

Issue Date 01-Apr-2006 **Revision Date** 26-Jul-2024 **Version** 4.2

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

1.1. Product identifier

Product Code(s)	2084766
Product Name	Potassium Persulfate
Synonyms	Potassium persulfate
CAS No	7727-21-1
Unique Formula Identifier (UFI)	*/*
EC No (EU Index No)	231-781-8
Index No.	016-061-00-1
Formula	$K_2S_2O_8$
Molecular weight	270.32 g/mole

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

Recommended Use	Analytical reagent.
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]

Oxidising solids	Category 3 - (H272)
Acute toxicity - Oral	Category 4 - (H302)
Skin corrosion/irritation	Category 2 - (H315)
Serious eye damage/eye irritation	Category 2 - (H319)
Respiratory sensitisation	Category 1 - (H334)
Skin sensitisation	Category 1 - (H317)
Specific target organ toxicity — single exposure	Category 3 - (H335)

2.2. Label elements

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

EC-Label 231-781-8
CAS No 7727-21-1
Contains Dipotassium peroxodisulphate



Signal word
Danger

Hazard statements
H272 - May intensify fire; oxidiser
H302 - Harmful if swallowed
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335 - May cause respiratory irritation

Precautionary statements
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P220 - Keep/Store away from clothing/ combustible materials
P261 - Avoid breathing dust/fume/gas/mist/vapours/spray
P280 - Wear protective gloves and eye/face protection
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention
P337 + P313 - If eye irritation persists: Get medical advice/attention
P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician

2.3. Other hazards
No information available.

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

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

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

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)
Dipotassium peroxodisulphate	7727-21-1 231-781-8 016-061-00-1	100%	Ox. Sol. 3 - H272 Acute Tox. 4 - H302 Skin Irrit. 2 -		-	-

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)
			H315 Skin Sens. 1 - H317 Eye Irrit. 2 - H319 Resp. Sens. 1 - H334 STOT SE 3 - H335			

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

Acute 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
Dipotassium peroxodisulphate 7727-21-1	802 mg/kg	None reported	None reported	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.

Inhalation Remove to fresh air. May cause allergic respiratory reaction. If breathing has stopped, give artificial respiration. Get medical attention immediately. Get immediate medical attention.

Eye contact Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a doctor. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing.

Skin contact IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash off immediately with soap and plenty of water for at least 15 minutes. Wash contaminated clothing before reuse. May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a doctor.

Ingestion Rinse mouth. Never give anything by mouth to an unconscious person. May produce an allergic reaction. Get immediate medical attention.

Self-protection of the first aider Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.

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

Symptoms May cause allergy or asthma symptoms or breathing difficulties if inhaled. Coughing and/ or wheezing. Itching. Rashes. Hives. Burning sensation.

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

Note to doctors May cause sensitisation in susceptible persons. Treat symptomatically.

Section 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media No information available.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. Product is or contains a sensitiser. May cause sensitisation by inhalation and skin contact. May cause sensitisation by skin contact.

Hazardous combustion products Thermal decomposition can lead to release of irritating and toxic gases and vapours. Sulphur oxides. Potassium 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. Oxidiser. Move containers from fire area if you can do it without risk. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. ALWAYS stay away from tanks engulfed in fire.

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 Ensure adequate ventilation. Avoid contact with skin, eyes or clothing. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. See section 8 for more information. Stop leak if you can do it without risk. Use personal protective equipment as required.

For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.

6.3. Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk.

Methods for cleaning up Take up with sand or other noncombustible absorbent material and place into containers for later disposal. With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. Prevent product from entering drains.

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 Use personal protection equipment. Avoid contact with skin, eyes or clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Handle in accordance with good industrial hygiene and safety practice. Ensure adequate ventilation. Take off contaminated clothing and wash it before reuse. Avoid breathing vapours or mists.

General hygiene considerations Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Wash hands before breaks and after work. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. 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. Keep in properly labelled containers. Do not store near combustible materials. Keep out of the reach of children. Store in accordance with local regulations.

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
Dipotassium peroxodisulphate 7727-21-1	-	-	TWA: 0.1 mg/m^3 STEL: 0.3 mg/m^3 Sens+

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.

Personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Hand protection Wear suitable gloves. Barrier creams may help to protect the exposed areas of skin. 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
Short term	Wear protective nitrile rubber gloves	0,20 mm	>30 minutes
Long term (repeated)	Wear protective Viton™ gloves	0,5 mm	>480 minutes

Skin and body protection Wear suitable protective clothing. Long sleeved clothing.

Respiratory protection Ensure adequate ventilation. No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required. Wear breathing apparatus if exposed to vapours/dusts/aerosols.

General hygiene considerations Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Wash hands before breaks and after work. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. 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 Solid

Colour white **Odour** Odourless

Odour threshold Not applicable

Property	Values	Remarks • Method
Molecular weight	270.32 g/mole	

pH	4.0	5.0% Solution
Melting point / freezing point	>= 170 °C / 338 °F	
Initial boiling point and boiling range	No data available	
Evaporation rate	Not applicable	
Vapour pressure	Not applicable	
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	170 °C / 338 °F	
Dynamic viscosity	Not applicable	
Kinematic viscosity	Not applicable	
Relative density	2.477 g/cm^3	

Solubility(ies)

Water solubility

Water solubility classification	Water solubility	Water Solubility Temperature
Completely soluble	47000 mg/L	25 °C / 77 °F

Solubility in other solvents

Chemical Name	Solubility classification	Solubility	Solubility Temperature
None reported	No information available	No data available	No information available

Metal Corrosivity

Steel Corrosion Rate	Not applicable
Aluminum Corrosion Rate	Not applicable

Explosive properties

Upper explosion limit	No data available
Lower explosion limit	No data available

Flammable properties

Flash point	Not applicable

Flammability

Upper flammability limit:	No data available
Lower flammability limit	No data available

Oxidising properties Classified as an oxidizer according to GHS criteria.

Bulk density 1150 kg/m^3

9.2. Other information

No information available.

Section 10: STABILITY AND REACTIVITY

10.1. Reactivity

Reactivity Oxidiser.

10.2. Chemical stability

Stability May cause fire or explosion; strong oxidiser.

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 Heat, flames and sparks. Incompatible materials.

10.5. Incompatible materials

Incompatible materials Organic material. Combustible material. Hydrocarbons. Acids. Reducing agent. Strong bases. Strong oxidising agents. Metals.

10.6. Hazardous decomposition products

Hazardous Decomposition Products Sulphur oxides. Nitrogen oxides (NOx).

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 If available, see ingredient data below.

Substance No data available.

Oral Exposure Route:

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Dipotassium peroxodisulphate	Rat LD_{50}	802 mg/kg	None reported	None reported	IUCLID

Acute Toxicity Estimate (ATE) Not applicable

Skin corrosion/irritation
Classification based on data available for ingredients. Irritating to skin.

Mixture If available, see ingredient data below.

Substance No data available.

Serious eye damage/eye irritation
Classification based on data available for ingredients. Irritating to eyes.

Mixture If available, see ingredient data below.

Substance No data available.

Respiratory or skin sensitisation
May cause sensitisation by inhalation. May cause sensitisation by skin contact.

Mixture If available, see ingredient data below.

Substance Test data reported below.

Skin Sensitization Exposure Route:

Chemical name	Test method	Species	Results	Key literature references and sources for data
Dipotassium peroxodisulphate	Local Lymph Node Assay	Mouse	Confirmed to be a skin sensitizer	ECHA

STOT - single exposure
May cause respiratory irritation.

Mixture If available, see ingredient data below.

Substance No data available.

STOT - repeated exposure
Based on available data, the classification criteria are not met.

Mixture If available, see ingredient data below.

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
Dipotassium peroxodisulphate	Rat NOAEL	131.5 mg/kg	28 days	No toxicological effects observed	ECHA

Dermal Exposure Route:

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Dipotassium peroxodisulphate	Rat NOAEL	91 mg/kg	90 days	No toxicological effects observed	ECHA

Inhalation (Dust/Mist) Exposure Route:

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Dipotassium peroxodisulphate	Rat NOAEC	10.3 mg/m³	90 days	No toxicological effects observed	ECHA

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

Mixture invitro **Data** If available, see ingredient data below.

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

Chemical name	Test	Cell Strain	Reported dose	Exposure time	Results	Key literature references and sources for data
Dipotassium peroxodisulphate	Mutation in microorganisms	*Salmonella typhimurium*	10 mg/plate	None reported	Negative	ECHA

Mixture invivo **Data** If available, see ingredient data below.

Substance invivo **Data** No data available.

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

Mixture If available, see ingredient data below.

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
Dipotassium peroxodisulphate	Rat NOAEL	>= 250 mg/kg	Single generation	No reproductive or developmental toxic effects observed	ECHA

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.

Mixture

Acute aquatic toxicity: If available, see ingredient data below.

Aquatic Chronic Toxicity: If available, see ingredient data below.

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
Dipotassium peroxodisulphate	96 hours	None reported	LC_{50}	>= 76.3 mg/L	FIFRA

Crustacea:

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Dipotassium peroxodisulphate	48 Hours	*Daphnia magna*	EC_{50}	92 mg/L	EPA

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
Dipotassium peroxodisulphate	The substance is not PBT / vPvB

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	1492
14.2 UN proper shipping name	POTASSIUM PERSULPHATE
14.3 Transport hazard class(es)	5.1
14.4 Packing Group	III
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	
Special Provisions	None
Classification code	O2
Tunnel restriction code	(E)

IATA

14.1 UN number or ID number	UN1492
14.2 UN proper shipping name	Potassium persulphate
14.3 Transport hazard class(es)	5.1
14.4 Packing group	III
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	
Special Provisions	A803

IMDG

14.1 UN number or ID number	UN1492
14.2 UN proper shipping name	POTASSIUM PERSULPHATE
14.3 Transport hazard class(es)	5.1
14.4 Packing Group	III

14.5 Environmental hazards Not applicable
14.6 Special precautions for user
Special Provisions None
EmS-No F-A, S-Q
14.7 Maritime transport in bulk according to IMO instruments No information available

Additional information
If the item is part of a reagent set or kit the classification would change to the following:
UN3316 Chemical Kit, Hazard Class 9, Packing Group II or III.
If the item is not regulated, the Chemical Kit classification does not apply.

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
Dipotassium peroxodisulphate - 7727-21-1	Use restricted. See entry 75.	

Persistent Organic Pollutants Not applicable

Dangerous substance category per Seveso Directive (2012/18/EU)
• P8 - OXIDISING LIQUIDS AND SOLIDS

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
Dipotassium peroxodisulphate 7727-21-1	RG 65,RG 66	-

International Inventories

EINECS/ELINCS	Complies
TSCA	Complies
DSL/NDSL	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 01-Apr-2006

Revision Date 26-Jul-2024

Revision Note updated SDS sections:
3
9
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
Carcinogenicity	Calculation method
STOT - repeated exposure	Calculation method
Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method
Aspiration toxicity	Calculation method
Ozone	Calculation method
Oxidising solids	On basis of test data

Full text of H-Statements referred to under section 3
H272 - May intensify fire; oxidiser
H302 - Harmful if swallowed
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335 - May cause respiratory irritation

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