

1. Identification of the substance / mixture and of the company / undertaking

1.1 Product identifier

Product name: Potassium perchlorate
CAS-No.: 7778-74-7
EC-No.: 231-912-9

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

Identified use: Laboratory chemical

1.3 Details of the supplier of the safety data sheet

Company: NETZSCH-Gerätebau GmbH
Wittelsbacherstraße 42
95100 Selb / Germany

Customer service Phone: +49 9287 881-555

1.4 Emergency Phone: +49 9287 881-174 (during office hours)

Fax: +49 9287 881-505

E-mail Address: service@ngb.netzsch.com

2. Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Ox. Sol. 1 H271 May cause fire or explosion; strong oxidizer.
Acute Tox. 4 H302 Harmful if swallowed.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The substance is classified and labelled according to the CLP regulation.

Hazard
pictograms:



Signalword: Danger

Hazard statements:	H271 May cause fire or explosion; strong oxidizer. H302 Harmful if swallowed.
Precautionary statements:	P221 Take any precaution to avoid mixing with combustibles. P283 Wear fire/flame resistant/retardant clothing. P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking. P306+P360 IF ON CLOTHING: rinse immediately contaminated clothing and skin with plenty of water before removing clothes. P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
Additional information:	-

2.3 Other hazards

All chemicals are potentially dangerous.
They are therefore only be handled by specially trained personnel with the necessary care.

Results of PBT- und vPvB assessment

PBT:	Not applicable.
vPvB:	Not applicable.

3. Composition / information on ingredients

3.1 Chemical characterization:

Substances

CAS-No. Description: 7778-74-7 potassium perchlorate

Identification number(s):

EC number:	231-912-9
Formula:	KClO ₄
Molar mass [g/mol]:	138.55

4. First aid measures

4.1 Description of first aid measures

General information:	Consult a physician. Show this safety data sheet to the doctor in attendance. Remove any clothing soiled by the product.
After inhalation:	Move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
After skin contact:	Wash off with soap and plenty of water. If skin irritation continues, consult a doctor.
After eye contact:	To be sure rinse opened eye under running water. If there is any trouble seek medical help.
After swallowing:	Rinse out mouth and then drink water. Consult a physician. Never give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

Nausea

Gastric or intestinal disorders

Vomiting

Resorption into the body leads to oxygen deficiency in the blood.

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

5. Fire-Fighting measures

5.1 Extinguishing agents

Suitable extinguishing agents: Use fire extinguishing methods suitable to surrounding conditions.

CO₂ powder or water spray. Fight larger fires with water spray or alcohol resistant foam

For safety reasons unsuitable extinguishing agents:

For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

In the event of fire development of hazardous combustion gases or vapors possible

Product non-combustible.

Oxidizing.

In case of fire, the following can be released:

Chlorine, hydrogen chloride gas, potassium oxides.

5.3 Advice for firefighters

Protective equipment: Wear self-contained respiratory protective device.
Wear fully protective suit.

Additional information: -

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Avoid formation of dust.

Do not breathe dust.

Avoid contact with the eyes and skin.

Keep people at a distance and stay on the windward side.

Ensure adequate ventilation.

Wear personal protective equipment.

6.2 Environmental precautions

Do not allow to enter sewers/ground water or penetrate the soil.

6.3 Methods and material for containment and cleaning up

Pick up mechanically.

Dispose of the material collected according to regulations.

Dispose contaminated material as waste according to item 13.

6.4 Reference to other sections

See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7. Handling and storage

7.1 Precautions for safe handling

Do not spray on a naked flame or any incandescent material.
Keep containers, equipment and working place clean.
Handling corresponding to laboratory safety guidelines.
Prevent formation of dust.
Avoid contact with eyes or skin.

Information about fire and explosion protection:

Keep away from combustible material.

7.2 Conditions for safe storage, including any incompatibilities

Requirements to be safe storage,
including any incompatibilities: No special requirements.

Information about storage in one
common storage facility: Store away from foodstuffs.
Store away from flammable substances.

Further information about
storage conditions: Store in cool, dry conditions in well sealed receptacles.

Recommended storage
temperature: -

7.3 Specific end use(s)

No further relevant information available.

8. Exposure controls / personal protection

Additional information about
design of technical facilities: No further data; see item 7.

8.1 Control parameters

Ingredients with limit
values that require
monitoring at the workplace: Not required.

Additional information: The lists valid during the making were used as basis.

8.2 Exposure controls

Personal protective equipment:

General protective and hygienic measures:

Do not eat, drink, smoke or sniff while working.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.

Individual protection measures:

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

Respiratory protection:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
Required when dusts are generated.
Filter P2 (colour code: white)

Protection of hands:

Protective gloves:
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.
Material: Nitrile rubber

Eye protection:

Tightly sealed goggles.

Body protection:

Protective work clothing.

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information

<u>Appearance</u> Form: Colour:	Crystalline powder White
Odour:	Odorless
Odour threshold:	No information available.
pH-value (10g/l) at 25°C:	5
<u>Change in condition</u> Melting point / Melting range: Boiling point / Boiling range:	Decomposition >400°C No information available.
Flash point:	No information available.
Flammability (solid, gaseous):	No data available.
Ignition temperature:	No information available.
Self-igniting:	No information available.
Danger of explosion:	Explosive when mixed with combustible material.
<u>Explosion limits</u> Lower: Upper:	No information available. No information available.
Oxidizing properties:	Contact with combustible material may cause fire. May intensify fire; oxidizer.
Vapour pressure:	No information available.
Density at 20°C:	2.52 g/cm ³
Relative density:	No Information available.
Vapor density:	No Information available.
Bulk density:	~1150 kg/m ³
Evaporation rate:	No Information available.
Solubility in / Miscibility with water:	14 - 18 g/l (dependent on data source)
Partition coefficient (n-octanol / water):	-7.18 log P _{OW} (cal.)
<u>Viscosity</u> Dynamic: Kinematic:	No information available. No information available.

9.2 Other information

No further relevant information available.

10. Stability and reactivity

10.1 Reactivity

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10.2 Chemical stability

Thermal decomposition / conditions to be avoided:

No decomposition if used and stored according to specifications.

10.3 Possibility of hazardous reactions

Reacts with reducing agents.

10.4 Conditions to avoid

No further relevant information available.

10.5 Incompatible materials

Strong reducing agents, powdery metals, strong acids, organic materials, alcohols.

10.6 Hazardous decomposition products

In case of fire: see item 5.

11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD / LC50 values relevant for classification:

Quantitative data on the toxicity of this product are not available.

Potential health effects

Skin:	mild irritation
Eyes:	mild irritation
Inhalation:	no irritation.
Ingestion	Nausea, gastric or intestinal disorders, vomiting possible
Sensitization:	No sensitizing effects known.

CMR effects

Germ cell mutagenicity:	No information available.
Carcinogenicity:	IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
Reproductive toxicity:	Developmental toxicity - rat - oral Specific developmental abnormalities: endocrine system.

Aspiration hazard:

No information available.

Specific target organ toxicity – single exposure:

No information available.

Specific target organ toxicity – repeated exposure:

No information available.

Additional toxicological information:

RTECS: SC9700000

Further information:

The product should be handled with the usual care as necessary for chemicals.

12. Ecological information**12.1 Toxicity****Aquatic toxicity**

Daphnia toxicity		Algal toxicity	
EC50	Daphnia magna (Water flea) - 670 mg/l - 24 h	IC50	11 mg/l/72 h (algae) (GESTIS)

12.2 Persistence and degradability

Persistence: No information available.

Degradability: No information available.

12.3 Bioaccumulative potential

Due to the distribution coefficient n-octanol/water an accumulation in organisms is not expected.

12.4 Mobility in soil

No further relevant information available.

Ecotoxicological effects

Remark: Do not allow to enter waters, waste water, or soil!

12.5 Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

12.6 Other adverse effects

No further relevant information available.




13. Disposal considerations**13.1 Waste treatment methods**

Recommendation: Dispose of residual amounts and non-reusable solutions in accordance with local legal regulations. Waste code must be classified as hazardous.

Uncleaned packaging

Recommendation: Disposal same as for unused product.

14. Transport Information

	ADR	IMDG	IATA
14.1 UN-Number	UN1489	UN1489	UN1489
14.2 UN proper shipping name	1489 POTASSIUM PERCHLORATE	POTASSIUM PERCHLORATE	POTASSIUM PERCHLORATE
14.3 Transport hazard class(es) / -label			
14.4 Packing group:	II	II	II
Transport hazard class(es):	5.1 Oxidizing substances.	5.1 Oxidizing substances.	5.1 Oxidizing substances.
Label:	5.1	5.1	5.1
Danger Symbol:			
14.5 Environmental hazards:	No	No	No

14.6 Special precautions for user

Warning: Oxidizing substances.

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

The cargo is not intended to be carried in bulk.

15. Regulatory information

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

National regulations:

Information about limitation of use: In dealing with chemicals the national laws must be observed.

Waterhazard class: Water hazard class 1 (Assessment by list): slightly hazardous for water.

15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

16. Other Information

Guarantee

This information has been compiled to the best of our knowledge; however, we make no claim as to its completeness and it is meant to serve only as a guideline. NETZSCH-Gerätebau GmbH disclaims any liability for damages which may occur in handling or in contact with these chemicals.

Disclaimer

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