

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

Product identifier
Trade name Potassium perchlorate
Stock number: 11630
CAS Number: 7778-74-7
EINECS Number: 231-912-9
Index number: 017-008-00-5
Relevant identified uses of the substance or mixture and uses advised against
Sector of Use SU24 Scientific research and development


Details of the supplier of the safety data sheet
Manufacturer/Supplier: Alfa Aesar GmbH & Co.KG
Benzstrasse 3
D-76185 Karlsruhe / Germany

Informing department: Product safety department.
Emergency telephone number: Giftnotruf Universität Mainz / Poison Information Center Mainz
www.giftinfo.uni-mainz.de Telefon:+49(0)6131/19240

E-mail: gcat@matthey.com
www.alfa-chemcat.com

2 Hazards identification

Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008


 GHS03 flame over circle

Ox. Sol. 1 H271 May cause fire or explosion; strong oxidiser.

 GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC

 Xn; Harmful

R22: Harmful if swallowed.

 O; Oxidising

R9: Explosive when mixed with combustible material.

Information concerning particular hazards for human and environment: Not applicable

Label elements

Labelling according to Regulation (EC) No 1272/2008

Hazard pictograms

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



GHS03 GHS07

Signal word

Hazard statements

Precautionary statements

Danger

H271 May cause fire or explosion; strong oxidiser.

H302 Harmful if swallowed.

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.

P371+P380+P375 In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards

Results of PBT and vPvB assessment

PBT:

vPvB:

Not applicable.

Not applicable.

3 Composition/information on ingredients

Chemical characterization: Substances

(CAS#) Designation:

Potassium perchlorate (CAS# 7778-74-7)

Identification number(s):

231-912-9

EINECS Number:

017-008-00-5

Index number:

4 First aid measures

Description of first aid measures

General information

After inhalation

Instantly remove any clothing soiled by the product.

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

Seek immediate medical advice.

After skin contact

Instantly wash with water and soap and rinse thoroughly.

Seek immediate medical advice.

After eye contact

Rinse opened eye for several minutes under running water. Then consult doctor.

After swallowing

Seek immediate medical advice.

5 Firefighting measures

Extinguishing media

Suitable extinguishing agents

Use carbon dioxide, extinguishing powder or foam. Water may be ineffective but may be used for cooling exposed containers.

Special hazards arising from the substance or mixture

Can be released in case of fire:

Hydrogen chloride (HCl)

This substance is an oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition.

Advice for firefighters

Protective equipment:

Wear self-contained breathing apparatus.

Wear full protective suit.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Safety data sheet
according to 1907/2006/EC, Article 31

Revision: 17.03.2011

Printing date 18.03.2011

Trade name Potassium perchlorate
**Environmental precautions:
Methods and material for containment and
cleaning up:
Reference to other sections**

Do not allow material to be released to the environment without proper governmental permits.
Dispose of contaminated material as waste according to item 13.
See Section 7 for information on safe handling
See section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

(Contd. of page 1)

7 Handling and storage
**Handling
Precautions for safe handling**

Keep containers tightly sealed.
Store in cool, dry place in tightly closed containers.
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of dust.

**Information about protection against
explosions and fires:**

Substance/product can reduce the ignition temperature of flammable substances.
This substance is an oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition.

Conditions for safe storage, including any incompatibilities
**Storage
Requirements to be met by storerooms and
containers:
Information about storage in one common
storage facility:**

No special requirements.
Store away from flammable substances.
Store away from reducing agents.

**Further information about storage
conditions:**

Keep container tightly sealed.
Store in cool, dry conditions in well sealed containers.

8 Exposure controls/personal protection
**Additional information about design of
technical systems:**

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

**Control parameters
Components with critical values that require
monitoring at the workplace:
Additional information:**

Not required.
No data

**Exposure controls
Personal protective equipment
General protective and hygienic measures**

The usual precautionary measures should be adhered to in handling the chemicals.
Keep away from foodstuffs, beverages and food.
Instantly remove any soiled and impregnated garments.
Wash hands during breaks and at the end of the work.
Use breathing protection with high concentrations.
Check protective gloves prior to each use for their proper condition.
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

**Breathing equipment:
Protection of hands:
Material of gloves**

Impervious gloves
Not determined
Safety glasses
Protective work clothing.

**Penetration time of glove material
Eye protection:
Body protection:**
9 Physical and chemical properties
Information on basic physical and chemical properties
General Information
Appearance:

Form: Powder
Colour: White
Smell: Not determined
Odour threshold: Not determined.

pH-value: Not applicable.

Change in condition

Melting point/Melting range: 400°C
Boiling point/Boiling range: Not determined
Sublimation temperature / start: Not determined

Flash point: Not applicable

Inflammability (solid, gaseous) Not determined.

Ignition temperature: Not determined

Decomposition temperature: Not determined

Self-inflammability: Not determined.

Danger of explosion: Explosive when mixed with combustible material.

Critical values for explosion:

Lower: Not determined
Upper: Not determined

Steam pressure: Not applicable.

Density at 20°C 2.52 g/cm³
Relative density Not determined.
Vapour density Not applicable.
Evaporation rate Not applicable.

**Solubility in / Miscibility with
Water at 100°C:** 218 g/l

Segregation coefficient (n-octanol/water): Not determined.

Viscosity:

dynamic: Not applicable.
kinematic: Not applicable.
Other information No further relevant information available.

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(Contd. on page 3)

Trade name **Potassium perchlorate**

(Contd. of page 2)

10 Stability and reactivity

Reactivity	
Chemical stability	
Thermal decomposition / conditions to be avoided:	No decomposition if used and stored according to specifications.
Possibility of hazardous reactions	Reacts with reducing agents Reacts with flammable substances
Incompatible materials:	Reducing agents Organic materials Metal powders
Hazardous decomposition products:	Hydrogen chloride (HCl) Phosgen

11 Toxicological information

Information on toxicological effects	
Acute toxicity:	
Primary irritant effect:	
on the skin:	Irritant for skin and mucous membranes.
on the eye:	Irritant effect.
Sensitization:	No sensitizing effect known.
Other information (about experimental toxicology):	Reproductive effects have been observed on tests with laboratory animals.
Additional toxicological information:	To the best of our knowledge the acute and chronic toxicity of this substance is not fully known. No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

12 Ecological information

Toxicity	
Acquatic toxicity:	No further relevant information available.
Persistence and degradability	No further relevant information available.
Behaviour in environmental systems:	
Bioaccumulative potential	No further relevant information available.
Mobility in soil	No further relevant information available.
Additional ecological information:	
General notes:	Water hazard class 1 (Self-assessment): slightly hazardous for water. Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system. Do not allow material to be released to the environment without proper governmental permits.
Results of PBT and vPvB assessment	
PBT:	Not applicable.
vPvB:	Not applicable.
Other adverse effects	No further relevant information available.

13 Disposal considerations

Waste treatment methods	
Recommendation	Consult state, local or national regulations for proper disposal. Hand over to disposers of hazardous waste. Must be specially treated under adherence to official regulations.
Uncleaned packagings:	
Recommendation:	Disposal must be made according to official regulations.

14 Transport information**Land transport ADR/RID and GGVS/GGVE (cross-border/domestic)**

ADR/RID-GGVS/E Class:	5.1 (O2) Oxidising substances.
Kemler Number:	50
UN-Number:	1489
Packaging group:	II
Label	5.1
UN proper shipping name:	1489 POTASSIUM PERCHLORATE
Limited quantities (LQ)	LQ11
Transport category	2
Tunnel restriction code	E

Maritime transport IMDG/GGVSea:

IMDG/GGVSea Class:	5.1
UN Number:	1489
Label	5.1
Packaging group:	II
Marine pollutant:	No
Segregation groups	Perchlorates
Correct technical name:	POTASSIUM PERCHLORATE

Air transport ICAO-TI and IATA-DGR:

ICAO/IATA Class:	5.1
UN/ID Number:	1489
Label	5.1
Packaging group:	II
Correct technical name:	POTASSIUM PERCHLORATE

UN "Model Regulation":	UN1489, POTASSIUM PERCHLORATE, 5.1, II
Special precautions for user	Warning: Oxidising substances.

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Safety data sheet
according to 1907/2006/EC, Article 31

Revision: 17.03.2011

Printing date 18.03.2011

Trade name **Potassium perchlorate**Transport in bulk according to Annex II of
MARPOL73/78 and the IBC Code

Not applicable.

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15 Regulatory information

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

Labelling according to Regulation (EC) No

1272/2008

Hazard pictograms

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



GHS03 GHS07

Signal word

Danger

Hazard statements

H271 May cause fire or explosion; strong oxidiser.

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Precautionary statements

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National regulations

Information about limitation of use:

Employment restrictions concerning young persons must be observed.

For use only by technically qualified individuals.

Water hazard class:

Water hazard class 1 (Self-assessment): slightly hazardous for water.

Chemical safety assessment:

A Chemical Safety Assessment has not been carried out.

16 Other information

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing data specification sheet: Health, Safety and Environmental Department.

Contact:

Zachariah C. Holt

Global EHS Manager

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

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