

Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: December 16, 2020

1 Identification

- **Product identifier**
- **Trade name:** Potassium Persulfate, ACS Grade
- **Product code:** PP1060-K
- **CAS Number:**
7727-21-1
- **Recommended use and restriction on use**
- **Recommended use:** Laboratory chemicals
- **Restrictions on use:** No relevant information available.
- **Details of the supplier of the Safety Data Sheet**
- **Manufacturer/Supplier:**
AquaPhoenix Scientific, Inc.
860 Gitts Run Road
Hanover, PA 17331 USA
Tel +1 (717)632-1291
Toll-Free: (866)632-1291
info@aquaphoenixsci.com
- **Distributor:**
AquaPhoenix Scientific
860 Gitts Run Road,
Hanover, PA 17331
(717) 632-1291
- **Emergency telephone number:**
ChemTel Inc.
(800)255-3924 (North America)
+1 (813)248-0585 (International)

2 Hazard(s) identification

- **Classification of the substance or mixture**
- Ox. Sol. 3 H272 May intensify fire; oxidizer.
- Acute Tox. 4 H302 Harmful if swallowed.
- Skin Irrit. 2 H315 Causes skin irritation.
- Eye Irrit. 2A H319 Causes serious eye irritation.
- Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- Skin Sens. 1 H317 May cause an allergic skin reaction.
- STOT SE 3 H335 May cause respiratory irritation.

· Label elements

· GHS label elements

The product is classified and labeled according to the Globally Harmonized System (GHS).

· Hazard pictograms:



GHS03 GHS07 GHS08

- **Signal word:** Danger

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· **Hazard statements:**

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

· **Precautionary statements:**

- P210 Keep away from heat.
- P220 Keep/Store away from clothing/combustible materials.
- P221 Take any precaution to avoid mixing with combustibles.
- P261 Avoid breathing dust.
- P264 Wash thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P271 Use only outdoors or in a well-ventilated area.
- P272 Contaminated work clothing must not be allowed out of the workplace.
- P280 Wear protective gloves/protective clothing/eye protection.
- P285 In case of inadequate ventilation wear respiratory protection.
- P301+P312 If swallowed: Call a poison center/doctor if you feel unwell.
- P330 Rinse mouth.
- P302+P352 If on skin: Wash with plenty of water.
- P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- 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/doctor.
- P363 Wash contaminated clothing before reuse.
- P370+P378 In case of fire: Use for extinction: Water.
- P403+P233 Store in a well-ventilated place. Keep container tightly closed.
- P405 Store locked up.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **NFPA ratings (scale 0 - 4)** The substance possesses oxidizing properties.

· **Other hazards** There are no other hazards not otherwise classified that have been identified.

3 Composition/information on ingredients

· **Chemical characterization: Substances**

· **CAS No. Description**

7727-21-1 Potassium persulfate

4 First-aid measures

· **Description of first aid measures**

· **General information:**

Immediately remove any clothing soiled by the product.

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Take affected persons out into the fresh air.

· **After inhalation:**

Supply fresh air.

Seek immediate medical advice.

Provide oxygen treatment if affected person has difficulty breathing.

If experiencing respiratory symptoms: Call a poison center/doctor.

· **After skin contact:**

Brush off loose particles from skin.

Immediately rinse with water.

If skin irritation or rash occurs: Get medical advice/attention.

· **After eye contact:**

Remove contact lenses if worn.

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

· **After swallowing:**

Rinse out mouth and then drink plenty of water.

Do not induce vomiting; immediately call for medical help.

· **Most important symptoms and effects, both acute and delayed:**

Asthma attacks

Breathing difficulty

Coughing

Allergic reactions

Irritating to eyes, respiratory system and skin.

· **Danger:**

Danger of impaired breathing.

Harmful if swallowed.

May cause sensitization by inhalation and skin contact.

· **Indication of any immediate medical attention and special treatment needed:**

Severe allergic skin reaction, bronchial spasms and anaphylactic shock are possible.

Medical supervision for at least 48 hours.

If necessary oxygen respiration treatment.

Later observation for pneumonia and pulmonary edema.

Treat skin and mucous membrane with antihistamine and corticoid preparations.

Contains Potassium persulfate. May produce an allergic reaction.

If medical advice is needed, have product container or label at hand.

In cases of irritation to the lungs, initial treatment with cortical steroid inhalants.

5 Fire-fighting measures

· **Extinguishing media**

· **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.

· **For safety reasons unsuitable extinguishing agents:** No relevant information available.

· **Special hazards arising from the substance or mixture**

May intensify fire; oxidizer.

Formation of toxic gases is possible during heating or in case of fire.

· **Advice for firefighters**

· **Protective equipment:**

Wear self-contained respiratory protective device.

Wear fully protective suit.

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6 Accidental release measures

· Personal precautions, protective equipment and emergency procedures

Isolate area and prevent access.

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation.

For large spills, use respiratory protective device against the effects of fumes/dust/aerosol.

Take any precaution to avoid mixing with combustibles.

· Environmental precautions

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

· Methods and material for containment and cleaning up

Sweep up and place into an appropriate container.

Send for recovery or disposal in suitable receptacles.

· 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

· Handling

· Precautions for safe handling:

Prevent formation of dust.

Use only in well ventilated areas.

Any deposit of dust which cannot be avoided must be regularly removed.

Do not dry clean dust covered objects and floors. Wash thoroughly with plenty of water.

· Information about protection against explosions and fires:

May intensify fire; oxidizer.

Substance/product can reduce the ignition temperature of flammable substances.

· Conditions for safe storage, including any incompatibilities

· Requirements to be met by storerooms and receptacles: Avoid storage near extreme heat.

· Information about storage in one common storage facility:

Store away from foodstuffs.

Store away from flammable substances.

Store away from reducing agents.

Do not store together with acids.

· Further information about storage conditions:

Keep containers tightly sealed.

This product is hygroscopic.

Store in cool, dry conditions in well sealed receptacles.

· Specific end use(s) No relevant information available.

8 Exposure controls/personal protection

· Control parameters

· Components with limit values that require monitoring at the workplace:

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TLV (USA)	Long-term value: 0.1 mg/m ³ as persulfate
EL (Canada)	Long-term value: 0.1 mg/m ³ as persulfate
EV (Canada)	Long-term value: 0.1 mg/m ³

· Exposure controls

· General protective and hygienic measures:

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Do not inhale gases / fumes / aerosols.

Avoid contact with the eyes and skin.

· Engineering controls: Provide adequate ventilation.

· Breathing equipment: Use suitable respiratory protective device when high concentrations are present.

· Protection of hands:



Protective gloves

· Material of gloves

Nitrile rubber, NBR

Neoprene gloves

Butyl rubber, BR

Natural rubber, NR

Sensibilization by the components in the glove materials is possible.

· Eye protection:



Safety glasses

Follow relevant national guidelines concerning the use of protective eyewear.

· Body protection: Protective work clothing

· Limitation and supervision of exposure into the environment

No relevant information available.

9 Physical and chemical properties

· Information on basic physical and chemical properties

· Appearance:

Form: Powder

Color: White

· **Odor:** Odorless

· **Odor threshold:** Not determined.

· **pH-value:** Not applicable.

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· Melting point/Melting range:	<100 °C (<212 °F)
· Boiling point/Boiling range:	Not determined.
· Flash point:	The product is not flammable.
· Flammability (solid, gaseous):	Contact with combustible material may cause fire.
· Auto-ignition temperature:	Not determined.
· Decomposition temperature:	Not determined.
· Danger of explosion:	Product does not present an explosion hazard.
· Explosion limits Lower:	Not determined.
Upper:	Not determined.
· Oxidizing properties:	Oxidizer
· Vapor pressure:	Not determined.
· Density at 20 °C (68 °F):	2.48 g/cm ³ (20.7 lbs/gal)
· Relative density:	Not determined.
· Vapor density:	Not applicable.
· Evaporation rate:	Not applicable.
· Solubility in / Miscibility with Water:	Not miscible or difficult to mix. Insoluble.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity Dynamic:	Not applicable.
Kinematic:	Not applicable.
· Other information	No relevant information available.

10 Stability and reactivity

- **Reactivity:** No relevant information available.
- **Chemical stability:** Stable under normal temperatures and pressures.
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
- **Possibility of hazardous reactions**
Acts as an oxidizing agent on organic materials such as wood, paper and fats.
Reacts with reducing agents.
Exothermic reaction with acids.
Toxic fumes may be released if heated above the decomposition point.
- **Conditions to avoid** No relevant information available.
- **Incompatible materials**
Flammable materials.
Acids.
Reducing agents.
- **Hazardous decomposition products**

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Oxygen
Under fire conditions only:
Sulfur oxides (SOx)

11 Toxicological information

· Information on toxicological effects

· **Acute toxicity:** Harmful if swallowed.

· LD/LC50 values that are relevant for classification:

7727-21-1 Potassium persulfate

Oral | LD50 | 802 mg/kg (rat)

· Primary irritant effect:

· **On the skin:** Irritant to skin and mucous membranes.

· **On the eye:** Causes eye irritation.

· **Sensitization:** May cause sensitization by inhalation and skin contact.

· IARC (International Agency for Research on Cancer):

Substance is not listed.

· NTP (National Toxicology Program):

Substance is not listed.

· OSHA-Ca (Occupational Safety & Health Administration):

Substance is not listed.

· Probable route(s) of exposure:

Ingestion.

Inhalation.

Eye contact.

Skin contact.

· Acute effects (acute toxicity, irritation and corrosivity):

Irritating to eyes, respiratory system and skin.

Harmful if swallowed.

· **Repeated dose toxicity:** May cause sensitization by inhalation and skin contact.

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

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

· **Reproductive toxicity:** Based on available data, the classification criteria are not met.

· **STOT-single exposure:** May cause respiratory irritation.

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

· **Aspiration hazard:** Based on available data, the classification criteria are not met.

12 Ecological information

· Toxicity

· **Aquatic toxicity** No relevant information available.

· **Persistence and degradability** No relevant information available.

· **Bioaccumulative potential:** No relevant information available.

· **Mobility in soil:** No relevant information available.

· **Additional ecological information**

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· **General notes:**

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

· **Other adverse effects** No relevant information available.

13 Disposal considerations

· **Waste treatment methods**

· **Recommendation:**

The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes. Residual materials should be treated as hazardous.

· **Uncleaned packagings**

· **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

· **UN-Number**

· DOT, ADR/RID/ADN, IMDG, IATA UN1492

· **UN proper shipping name**

· DOT, ADR/RID/ADN, IMDG, IATA POTASSIUM PERSULPHATE

· **Transport hazard class(es)**

· DOT



· Class 5.1

· Label 5.1

· ADR/RID/ADN



· Class 5.1 (O2)

· Label 5.1

· IMDG, IATA



· Class 5.1

· Label 5.1

· **Packing group**

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· DOT, ADR/RID/ADN, IMDG, IATA	III
· Environmental hazards	Not applicable.
· Special precautions for user	Warning: Oxidizing substances
· Hazard identification number (Kemler code):	50
· EMS Number:	F-A,S-Q
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- United States (USA)
- SARA

· Section 302 (extremely hazardous substances):

Substance is not listed.

· Section 313 (Specific toxic chemical listings):

Substance is not listed.

· TSCA (Toxic Substances Control Act)

All ingredients are listed or exempt.

· Proposition 65 (California)

· Chemicals known to cause cancer:

Substance is not listed.

· Chemicals known to cause developmental toxicity for females:

Substance is not listed.

· Chemicals known to cause developmental toxicity for males:

Substance is not listed.

· Chemicals known to cause developmental toxicity:

Substance is not listed.

· EPA (Environmental Protection Agency):

Substance is not listed.

· IARC (International Agency for Research on Cancer):

Substance is not listed.

· Canadian Domestic Substances List (DSL):

Substance is not listed.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

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· **Abbreviations and acronyms:**

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
OSHA: Occupational Safety & Health Administration
Ox. Sol. 3: Oxidizing solids – Category 3
Acute Tox. 4: Acute toxicity – Category 4
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
Resp. Sens. 1: Respiratory sensitisation – Category 1
Skin Sens. 1: Skin sensitisation – Category 1
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

· **Sources**

Website, European Chemicals Agency (echa.europa.eu)
Website, US EPA Substance Registry Services (ofmpub.epa.gov/sor_internet/registry/substreg/home/overview/home.do)
Website, Chemical Abstracts Registry, American Chemical Society (www.cas.org)
Patty's Industrial Hygiene, 6th ed., Rose, Vernon, ed. ISBN: 978-0-470-07488-6
Casarett and Doull's Toxicology: The Basic Science of Poisons, 8th Ed., Klaasen, Curtis D., ed., ISBN: 978-0-07-176923-5.
Safety Data Sheets, Individual Manufacturers