SECTION 1. IDENTIFICATION

Product Identifier: (5N) 99.999% Potassium Permanganate Solution

Product Code: K-PMNO-05-SOL

CAS Number: 7722-64-7

Relevant identified uses of the substance: Scientific research and development

Supplier details:

American Elements
10884 Weyburn Ave.
Los Angeles, CA 90024
Tel: +1 310-208-0551
Fax: +1 310-208-0351
Emergency telephone number:
+1 800-424-9300

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture
GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)
Acute aquatic toxicity (Category 1), H400
Chronic aquatic toxicity (Category 1), H410
For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 GHS Label elements, including precautionary statements
Pictogram

Signal word Warning
Hazard statement(s)
H410 Very toxic to aquatic life with long lasting effects.
Precautionary statement(s)
P273 Avoid release to the environment.
P391 Collect spillage.
P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - n
SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures
Molecular weight : 158.03 g/mol
Hazardous components
Component Classification Concentration
Potassium permanganate
CAS-No. EC-No. Index-No.
7722-64-7 231-760-3 025-002-00-9
Ox. Sol. 2; Acute Tox. 4; Skin Corr. 1B; Eye Dam. 1; Aquatic
Acute 1; Aquatic Chronic 1;
H272, H302, H314, H410
>= 1 - < 5 %

SECTION 4. FIRST AID MEASURES

4.1 Description of first aid measures
General advice
Move out of dangerous area. Consult a physician. Show this safety data sheet to the doctor in attendance.
If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
In case of skin contact
Wash off with soap and plenty of water. Consult a physician.
In case of eye contact
Flush eyes with water as a precaution.
If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11
4.3 Indication of any immediate medical attention and special treatment needed
No data available

SECTION 5. FIREFIGHTING MEASURES

5.1 Extinguishing media
Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
5.2 Special hazards arising from the substance or mixture
Potassium oxides, Manganese/manganese oxides
5.3 Advice for firefighters
Wear self-contained breathing apparatus for firefighting if necessary.
5.4 Further information
SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.
For personal protection see section 8.
6.2 Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.
6.3 Methods and materials for containment and cleaning up
Keep in suitable, closed containers for disposal.
6.4 Reference to other sections
For disposal see section 13.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling
For precautions see section 2.2.
7.2 Conditions for safe storage, including any incompatibilities
Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.
7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters
Components with workplace control parameters
Component / CAS-No.
Value / Control parameters / Basis
Potassium permanganate 7722-64-7 C
5.000000 mg/m3 USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants Remarks Ceiling limit is to be determined from breathing-zone air samples.
TWA "0.200000 mg/m3" "USA. ACGIH Threshold Limit Values (TLV)"
"Central Nervous System impairment Adopted values or notations enclosed are those for which changes are proposed in the NIC
See Notice of Intended Changes (NIC) varies"
TWA 1.000000 mg/m3 "USA. NIOSH Recommended Exposure Limits"
ST "3.000000 mg/m3" "USA. NIOSH Recommended Exposure Limits"
TWA "0.100000 mg/m3" "USA. ACGIH Threshold Limit Values (TLV)"
"Central Nervous System impairment 2014 Adoption varies"
TWA "0.020000 mg/m3" "USA. ACGIH Threshold Limit Values (TLV)"
"Central Nervous System impairment 2014 Adoption varies"
C 5 mg/m3 "USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants"
Ceiling limit is to be determined from breathing-zone air samples.
TWA 0.1 mg/m3 "USA. ACGIH Threshold Limit Values (TLV)"
Central Nervous System impairment varies
TWA 0.02 mg/m³ "USA. ACGIH Threshold Limit Values (TLV)"
Central Nervous System impairment varies
TWA 1 mg/m³ "USA. NIOSH Recommended Exposure Limits"
ST 3 mg/m³ "USA. NIOSH Recommended Exposure Limits"

8.2 Exposure controls
Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
Personal protective equipment
Eye/face protection
Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
Skin protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.
Body Protection
Impervious clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Respiratory protection
Respiratory protection not required. For nuisance exposures use type OV/AG (US) or type ABEK (EU EN 14387) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties
a) Appearance Form: liquid
b) Odor No data available
c) Odor Threshold No data available
d) pH No data available
e) Melting point/freezing point
Melting point/range: No data available
f) Initial boiling point and boiling range
No data available
g) Flash point N/A
h) Evaporation rate No data available
i) Flammability (solid, gas) No data available
j) Upper/lower flammability or explosive limits
No data available
k) Vapor pressure No data available
l) Vapor density No data available
m) Relative density 2.710 g/cm³
n) Water solubility No data available
o) Partition coefficient: octanol/ water
   No data available
p) Auto-ignition temperature
   No data available
q) Decomposition temperature
   No data available
r) Viscosity No data available
s) Explosive properties No data available
t) Oxidizing properties The substance or mixture is classified as oxidizing with the category 2.

9.2 Other safety information
   No data available

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity
   No data available
10.2 Chemical stability
   Stable under recommended storage conditions.
10.3 Possibility of hazardous reactions
   No data available
10.4 Conditions to avoid
   No data available
10.5 Incompatible materials
   Zinc, Powdered metals, Peroxides, Copper, Strong reducing agents
10.6 Hazardous decomposition products
   Other decomposition products - No data available
   In the event of fire: see section 5

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects
   Acute toxicity
   No data available
   Inhalation: No data available
   Dermal: No data available
   No data available
   Skin corrosion/irritation
   No data available
   Serious eye damage/eye irritation
   No data available
   Respiratory or skin sensitisation
   No data available
   Germ cell mutagenicity
   No data 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.
   ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a
       carcinogen or potential carcinogen by ACGIH.
   NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a
known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity
No data available
Specific target organ toxicity - single exposure
No data available
Specific target organ toxicity - repeated exposure
No data available
Aspiration hazard
No data available

Additional Information
RTECS: Not available
Men exposed to manganese dusts showed a decrease in fertility. Chronic manganese poisoning primarily involves the central nervous system. Early symptoms include languor, sleepiness and weakness in the legs. A stolid mask-like appearance of the face, emotional disturbances such as uncontrollable laughter and a spastic gait with tendency to fall in walking are findings in more advanced cases. High incidence of pneumonia has been found in workers exposed to the dust or fume of some manganese compounds. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity
No data available
12.2 Persistence and degradability:
No data available
12.3 Bioaccumulative potential:
No data available
12.4 Mobility in soil:
No data available
12.5 Results of PBT and vPvB assessment:
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects
An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic life

SECTION 13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods
Product
Offer surplus and non-recyclable solutions to a licensed disposal company.
Contaminated packaging
Dispose of as unused product.
SECTION 14. TRANSPORT INFORMATION

DOT (US)
Not dangerous goods
IMDG
UN number: 3082 Class: 9 Packing group: III EMS-No: F-A, S-F
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Potassium permanganate)
Marine pollutant: yes
IATA
UN number: 3082 Class: 9 Packing group: III
Proper shipping name: Environmentally hazardous substance, liquid, n.o.s. (Potassium permanganate)
Further information
EHS-Mark required (ADR 2.2.9.1.10, IMDG code 2.10.3) for single packagings and combination packagings containing inner packagings with Dangerous Goods > 5L for liquids or > 5kg for solids.

SECTION 15. REGULATORY INFORMATION

SARA 302 Components
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
SARA 313 Components
The following components are subject to reporting levels established by SARA Title III, Section 313:
Potassium permanganate
CAS-No. 7722-64-7
Revision Date 1993-04-24
SARA 311/312 Hazards
Acute Health Hazard
Massachusetts Right To Know Components
Potassium permanganate
CAS-No. 7722-64-7
Revision Date 1993-04-24
Pennsylvania Right To Know Components
Water
CAS-No. 7732-18-5
Revision Date
Potassium permanganate 7722-64-7 1993-04-24
New Jersey Right To Know Components
Water
CAS-No. 7732-18-5
Revision Date
Potassium permanganate 7722-64-7 1993-04-24
California Prop. 65 Components
This product does not contain any chemicals known to State of California to cause cancer, birth
defects, or any other reproductive harm.

16. OTHER INFORMATION

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. American Elements shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. COPYRIGHT 1997-2019 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.