

Potassium Nitrate Crystal, ACS

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Potassium Nitrate Crystal, ACS

Synonyms/Generic Names: Potassium salt; saltpeter

Product Number: 4390

Product Use: Industrial, Manufacturing or Laboratory use

Manufacturer: Columbus Chemical Industries, Inc.
N4335 Temkin Rd.
Columbus, WI. 53925

For More Information Call: 920-623-2140 (Monday-Friday 8:00-4:30)

In Case of Emergency Call: CHEMTREC - 800-424-9300 or 703-527-3887 (24 Hours/Day, 7 Days/Week)

2. HAZARDS IDENTIFICATION

OSHA Hazards: Oxidizer, Carcinogen, Target organ effect

Target Organs: Blood, Central nervous system

Signal Words: Warning

Pictograms:



GHS Classification

Oxidizing solids	Category 3
Acute aquatic toxicity	Category 3
Chronic aquatic toxicity	Category 3

GHS Label Elements, including precautionary statements:

Hazard Statements:

H272	May intensify fire; oxidizer
H412	Harmful to aquatic life with long lasting effects.

Precautionary Statements:

P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P220	Keep/Store away from clothing and other combustible materials.
P221	Take any precaution to avoid mixing with combustibles.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P370+P378	In case of fire: Use appropriate media to extinguish.
P501	Dispose of contents/container in accordance with local regulations.

Potential Health Effects

Eyes	May cause eye irritation.
Inhalation	May be harmful if inhaled. May cause respiratory tract irritation.
Skin	May be harmful if absorbed through skin. May cause skin irritation.
Ingestion	May be harmful if swallowed.

NFPA Ratings

Health	2
Flammability	0
Reactivity	1
Specific hazard	OX

HMIS Ratings

Health	2
Fire	0
Reactivity	1
Personal	Not Available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	Weight %	CAS #	EINECS# / ELINCS#	Formula	Molecular Weight
Potassium Nitrate	>99	7757-79-1	231-818-8	KNO ₃	101.11 g/mol

4. FIRST-AID INFORMATION

Eyes	Rinse with plenty of water for at least 15 minutes and seek medical attention.
Inhalation	Move casualty to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.
Skin	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and wash using soap. Get medical attention.
Ingestion	Do Not Induce Vomiting! Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention.

5. FIREFIGHTING MEASURES

Suitable (and unsuitable) extinguishing media	Use appropriate media for adjacent fire. Cool containers with water, keep away from common metals. Use WATER only, no dry chemical or carbon dioxide.
Special protective equipment and precautions for firefighters	Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots. Self-contained air supply to protect from oxides of nitrogen. Move container from fire area if possible.
Specific hazards arising from the chemical	Noxious fumes (oxides of nitrogen) may form. Oxidizers decompose when heated to yield oxygen and other gases which accelerate combustion. Contact with organics/other combustible may result in explosion/violent combustion.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	See section 8 for recommendations on the use of personal protective equipment.
Environmental precautions	Prevent spillage from entering drains. Any release to the environment may be subject to a federal/national or local reporting requirements.
Methods and materials for containment and cleaning up	Pick up and arrange disposal without creating dust. Sweep up and keep in suitable, closed containers for disposal. Clean surfaces thoroughly with

	water to remove residual contamination. Dispose of all waste or cleanup materials in accordance with local regulations.
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7. HANDLING AND STORAGE

Precautions for safe handling

Avoid formation of dust and aerosols. See section 8 for recommendations on the use of personal protective equipment. Use with adequate ventilation. Wash thoroughly after using. Keep container closed when not in use. Avoid formation of dusts.

Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well ventilated area. Keep away from incompatible materials (see section 10 for incompatibilities). Store under inert gas.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure controls: Contains no substances with occupational exposure limit values.

Personal Protection

Eyes	Wear chemical safety glasses or goggles.
Inhalation	Provide local exhaust, preferably mechanical. If exposure levels are excessive, use an approved respirator.
Skin	Wear appropriate chemical-resistant gloves, apron and other protective clothing appropriate to the risk of exposure.
Other	Not Available

Other Recommendations

Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling. Have supplies and equipment for neutralization and running water available.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.)	Colorless transparent crystals to white powder. Solid
Odor	No Odor
Odor threshold	Not Available
pH	5.5-8 at 50 g/l at 20°C (68°F)
Melting point/freezing point	333°C (631°F)
Initial boiling point and boiling range	Decomposes
Flash point	Not Flammable
Evaporation rate	Not Available
Flammability (solid, gas)	Not Flammable
Upper/lower flammability or explosive limit	Not Explosive
Vapor pressure	Not Available
Vapor density	Not Available
Relative density	Not Available
Solubility (ies)	Completely soluble in water.
Partition coefficient: n-octanol/water	Not Available
Auto-ignition temperature	Not Flammable
Decomposition temperature	Not Available

10. STABILITY AND REACTIVITY

Chemical Stability	Stable
Possibility of Hazardous Reactions	Will not occur.
Conditions to Avoid	Avoid contact with organics
Incompatible Materials	Many organics and combustible materials, reducing agents, powdered metals, strong acids.
Hazardous Decomposition Products	Nitrogen oxides.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Potassium Nitrate

Skin	Rabbit – severe skin irritation – 24 hours
Eyes	Rabbit – eye irritation – 24 hours
Respiratory	Not Available
Ingestion	LD50 Oral – rat – 3,750 mg/kg

Carcinogenicity

IARC	2A- Group 2A: Probably carcinogenic to humans (potassium nitrate).
ACGIH	No components 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 components 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 components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Signs & Symptoms of Exposure

Skin	Irritation.
Eyes	Irritation.
Respiratory	Dizziness, difficulty breathing, ringing in the ears, headache, sneezing, coughing.
Ingestion	Abdominal cramps, vomiting, bloody diarrhea, weakness.*

*Absorption into the body leads to the formation of methemoglobin which in sufficient concentration causes cyanosis. Onset may be delayed 2 to 4 hours or longer.

Chronic Toxicity	Not Available
Teratogenicity	Not Available
Mutagenicity	Not Available
Embryotoxicity	Not Available
Specific Target Organ Toxicity	Not Available
Reproductive Toxicity	Reproductive toxicity - rat - Oral Effects on Fertility: Other measures of fertility Reproductive toxicity - rat - Oral Effects on Newborn: Behavioral. Reproductive toxicity - rabbit - Oral Effects on Fertility: Abortion. Reproductive toxicity - guinea pig - Oral Effects on Newborn: Stillbirth. Reproductive toxicity - guinea pig - Oral Effects on Fertility: Female fertility index (e.g., # females pregnant per # sperm positive females; # females pregnant per # females mated). Effects on Embryo or Fetus: Other effects to embryo.
Respiratory/Skin Sensitization	Not Available

12. ECOLOGICAL INFORMATION

Ecotoxicity

Potassium Nitrate

Aquatic Vertebrate	LC50 - Gambusia affinis (Mosquito fish) – 22.5 mg/l - 96 h
Aquatic Invertebrate	EC50- Daphnia magna (water flea)- 226 mg/l- 72 h
Terrestrial	Not Available

Persistence and Degradability	Not Available
Bioaccumulative Potential	Not Available
Mobility in Soil	Not Available
PBT and vPvB Assessment	Not Available
Other Adverse Effects	Not Available

13. DISPOSAL CONSIDERATIONS

Waste Residues	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product or residue.
Product Containers	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product container.

The information offered in section 13 is for the product as shipped. Use and/or alterations to the product may significantly change the characteristics of the material and alter the waste classification and proper disposal methods.

14. TRANSPORTATION INFORMATION

US DOT	UN1486, Potassium Nitrate, 5.1, pg III
TDG	UN1486, POTASSIUM NITRATE, 5.1, pg III
IMDG	UN1486, POTASSIUM NITRATE, 5.1, pg III
Marine Pollutant	No
IATA/ICAO	UN1486, Potassium Nitrate, 5.1, pg III

15. REGULATORY INFORMATION

TSCA Inventory Status	All ingredients are listed on the TSCA inventory.
DSCL (EEC)	All ingredients are listed on the DSCL inventory.
California Proposition 65	Not Listed
SARA 302	Not Listed
SARA 304	Not Listed
SARA 311	Reactivity Hazard, Chronic Health Hazard
SARA 312	Reactivity Hazard, Chronic Health Hazard
SARA 313	Listed: Potassium Nitrate
WHMIS Canada	Class C: Oxidizing material

16. OTHER INFORMATION

Revision	Date
Revision 1	07-06-2011
Revision 2	07-05-2012
Revision 3	11/06/2013
Revision 4	03/17/2016

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