



SAFETY DATA SHEET

Product No. 46-8 Potassium Chloride Single Crystal Substrate
Issue Date (06/01/1989)
Review Date (08/29/2023) Rev. 02

Section 1: Product and Company Identification

Product Name: Potassium Chloride Single Crystal Substrate

Company Name

Ted Pella, Inc., P.O. Box 492477, Redding, CA 96049-2477

Inside USA and Canada 1-800-237-3526 (Mon-Thu. 6:00AM to 4:30PM PST; Fri 6:00AM to 4:00PM PST)

Outside USA and Canada 1-530-243-2200 (Mon-Thu. 6:00AM to 4:30PM PST; Fri 6:00AM to 4:00PM PST)

CHEMTREC USA and Canada Emergency Contact Number 1-800-424-9300 24 hours a day

CHEMTREC Outside USA and Canada Emergency Contact Number +1-703-741-5970 24 hours a day

Section 2: Hazard Identification

EMERGENCY OVERVIEW

Target Organs:	Heart/Heart
WHMIS Classification:	Not WHMIS controlled GHS Classification
Acute toxicity, Oral:	(Category 5)
Eye irritation:	(Category 2B)
Acute aquatic toxicity:	(Category 3)

GHS Label elements, including precautionary statements

Pictogram:	None
Signal word:	Warning
Hazard statement(s):	

H303	May be harmful if swallowed
H320	Causes eye irritation
H402	Harmful to aquatic life
P305+P351+P338	Precautionary statement(s) If in eyes, rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.

HMIS Classification

Health hazard	1
Chronic health hazard	*
Flammability	0
Physical hazards	0

Potential Health Effects

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

Section 3: Composition / Information on Ingredients

Formula: KCl Molecular

Weight: 74.55 g/mol

Component

CAS-No: 7447-40-7

EC-No: 231-211-8

Concentration <= 100%

Section 4: First Aid Measures

GENERAL ADVICE

Consult a physician.

Show this safety data sheet to the doctor in attendance.

Move out of dangerous area.

Description of first aid measures:

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: Rinse thoroughly with plenty of water for at least 15 minutes.
Consult a physician.

If swallowed: Never give anything by mouth to an unconscious person.
Rinse mouth with water.
Consult a physician.

Section 5: Fire Fighting Measures

CONDITIONS OF FLAMMABILITY

Not flammable or combustible

SUITABLE EXTINGUISHING MEDIA

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment

SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

- Wear self-contained breathing apparatus for firefighting if necessary

HAZARDOUS COMBUSTION PRODUCTS

- Hazardous decomposition products formed under fire conditions:
- Hydrogen chloride gas, Potassium oxides

EXPLOSION DATA – SENSITIVITY TO MECHANICAL IMPACT

- No data available

EXPLOSION DATA – SENSITIVITY TO STATIC DISCHARGE

- No data available

FURTHER INFORMATION

- The product itself does not burn

Section 6: Accidental Release Measures

Personal precautions, protective equipment and emergency procedures:

- Avoid dust formation.
- Avoid breathing vapors, mist or gas.
- Ensure adequate ventilation.
- Avoid breathing dust.

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.

Methods and materials for containment and cleaning up:

- Pick up and arrange disposal without creating dust.
- Sweep up and shovel.
- Keep in suitable, closed containers for disposal.

Section 7: Handling and Storage

Precautions for Safe Handling

- Avoid contact with skin and eyes.
- Avoid formation of dust and aerosols.
- Provide appropriate exhaust ventilation at places where dust is formed.

Conditions for Safe Storage

- Keep container tightly closed in a dry and well-ventilated place; hygroscopic.

Section 8: Exposure Controls / Personal Protection

Personal protective equipment

Respiratory protection:

For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand 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.

Full contact Material:

Nitrile rubber
Minimum layer thickness: 0.11mm
Break through time: 480 min

Splash contact:

Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min

Eye protection:

Safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

Skin and 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.
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Hygiene measures:	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of the workday.
Specific engineering controls:	Use mechanical exhaust or laboratory fume hood to avoid exposure.

Section 9 Physical and Chemical Properties

APPEARANCE

Form:	Beads
Color:	White
Odor:	No data available
Odor threshold:	No data available
pH:	7
Melting point/freezing point:	770°C (1418° F)
Initial boiling point and boiling range:	1500°C (2732°F)
Flash point:	No data available
Evaporation rate:	No data available
Flammability (solid, gas):	No data available
Upper flammability or explosive limits:	No data available
Lower flammability or explosive limits:	No data available
Vapor pressure:	No data available
Density:	1.98 g/ml @25°C (77° F)
Water solubility:	Soluble
Partition coefficient: n-octanol/water:	No data available
Auto-ignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity:	No data available
Explosive properties:	No data available
Oxidizing properties:	No data available

Section 10: Stability and Reactivity

Reactivity:	No data available
Chemical stability:	Stable under recommended storage conditions
Possibility of hazardous reactions:	No data available
Conditions to avoid:	No data available
Incompatible materials:	Strong acids and oxidizing agents
Hazardous decomposition products:	
<ul style="list-style-type: none"> Formed under fire conditions: 	Hydrogen chloride gas, Potassium oxides.
<ul style="list-style-type: none"> Other decomposition products: 	No data available.
Conditions to Avoid:	Exposure to moisture

Section 11: Toxicological Information

Acute toxicity

Oral LD50:	No data available
Inhalation LC50:	No data available
Dermal LD50:	No data available
Other information on acute toxicity:	No data available
Skin corrosion/irritation:	No data available
Serious eye damage/eye irritation:	No data available
Respiratory or skin sensitization:	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.

Reproductive toxicity:	No data available
Teratogenicity:	No data available
Specific target organ toxicity – single exposure (GHS):	No data available
Specific target organ toxicity – repeated exposure (GHS):	No data available
Aspiration hazard:	No data available

Potential health effects

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

Signs and Symptoms of Exposure: Hyperkalemia, nausea, vomiting, abdominal pain, diarrhea, constipation, paresthesia, thirst, dizziness, rash, pruritus, weakness, muscle cramps, minor psychiatric changes, minor visual changes

Synergistic effects:	No data available
Additional information:	RTECS:TS8050000

Section 12: Ecological Information

Toxicity

Toxicity to fish: LC50- Pimephales promelas (fathead minnow) – 880mg/l – 96h Mortality
NOEC – Pimephales promelas (fathead minnow) – 500mg/l 7 d
Mortality NOEC – Pimephales promelas (fathead minnow) –1000mg/l 7

Toxicity to daphnia and other aquatic invertebrates:

EC50 – Daphnia magna (Water Flea) 83mg/l – 48h

Persistence and degradability: No data available
Bioaccumulative potential: No data available
Mobility in soil: No data available

Results of PBT and vPvB assessment:
Not required/Not conducted

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

Section 13 Disposal Considerations

Product: Offer surplus and non-recyclable solutions to a licensed disposal company.
Contaminated Packaging: Dispose of as unused product.

Section 14: Transportation Information

DOT (US): Not dangerous goods
IMDG: Not dangerous goods
IATA: Not dangerous goods

Section 15: Regulatory Information

WHMIS Classification: Not WHMIS controlled.
SARA 302 COMPONENTS: No chemicals in this material are subject to the reporting requirement of SARA Title III, Section 302 SARA 313 COMPONENTS: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.
SARA 311/312 HAZARDS: No SARA hazards
MASSACHUSETTS RIGHT TO KNOW COMPONENTS: No components listed
PENNSYLVANIA RIGHT TO KNOW COMPONENTS: Sodium Chloride CAS-No. 7447-40-7
NEW JERSEY RIGHT TO KNOW COMPONENTS: Sodium Chloride CAS-No. 7447-40-7
CALIFORNIA PROP. 65 COMPONENTS: This product does not contain any chemicals known to the state of California to cause cancer, birth defects or any other reproductive harm.

Section 16: Other Information

This Safety Data Sheet (SDS) is intended to comply with the OSHA Hazard Communication Standard (29 CFR 1910.1200) and is consistent with the provisions of the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

Full text of other abbreviations

ACGIH: USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI: ACGIH - Biological Exposure Indices (BEI)
NIOSH REL: USA. NIOSH Recommended Exposure Limits
OSHA Z-1: USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants

OSHA Z-2:	USA. Occupational Exposure Limits (OSHA) - Table Z-2
US WEEL:	USA. Workplace Environmental Exposure Levels (WEEL)
ACGIH / TWA:	8-hour, time-weighted average
ACGIH / STEL:	Short-term exposure limit
NIOSH REL/TWA:	Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
NIOSH REL/ST:	STEL - 15-minute TWA exposure that should not be exceeded at any time during a workday OSHA Z-1 /
TWA:	8-hour time weighted average
OSHA Z-2/TWA:	8-hour time weighted average
OSHA Z-2/CEIL:	Acceptable ceiling concentration
OSHA Z-2/Peak:	Acceptable maximum peak above the acceptable ceiling concentration for an 8-hr shift
US WEEL/TWA:	8-hr TWA

AICS - Australian Inventory of Chemical Substances;
 AIIC - Australian Inventory of Industrial Chemicals;
 ASTM - American Society for the Testing of Materials;
 bw - Body weight;
 CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act;
 CMR - Carcinogen, Mutagen or Reproductive Toxicant;
 DIN - Standard of the German Institute for Standardization;
 DOT - Department of Transportation;
 DSL - Domestic Substances List (Canada);
 EC_x - Concentration associated with x% response;
 EHS - Extremely Hazardous Substance;
 EL_x - Loading rate associated with x% response;
 EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan);
 ErC_x - Concentration associated with x% growth rate response;
 ERG - Emergency Response Guide;
 GHS - Globally Harmonized System;
 GLP - Good Laboratory Practice;
 HMIS - Hazardous Materials Identification System;
 IARC - International Agency for Research on Cancer;
 IATA - International Air Transport Association;
 IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk;
 IC₅₀ - Half maximal inhibitory concentration;
 ICAO - International Civil Aviation Organization;
 IECSC - Inventory of Existing Chemical Substances in China;
 IMDG - International Maritime Dangerous Goods;
 IMO - International Maritime Organization;
 ISHL - Industrial Safety and Health Law (Japan);
 ISO - International Organization for Standardization;
 KECI - Korea Existing Chemicals Inventory;
 LC₅₀ - Lethal Concentration to 50 % of a test population;
 LD₅₀ - Lethal Dose to 50% of a test population (Median Lethal Dose);
 MARPOL - International Convention for the Prevention of Pollution from Ships;
 MSHA - Mine Safety and Health Administration;
 n.o.s. - Not Otherwise Specified;
 NFPA - National Fire Protection Association;
 NO(A)EC - No Observed (Adverse) Effect Concentration;
 NO(A)EL - No Observed (Adverse) Effect Level;
 NOELR - No Observable Effect Loading Rate;
 NTP - National Toxicology Program;

NZIoC - New Zealand Inventory of Chemicals;
OECD - Organization for Economic Co-operation and Development;
OPPTS - Office of Chemical Safety and Pollution Prevention;
PBT - Persistent, Bioaccumulative and Toxic substance;
PICCS - Philippines Inventory of Chemicals and Chemical Substances;
(Q)SAR - (Quantitative) Structure Activity Relationship;
RCRA - Resource Conservation and Recovery Act;
REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorization and Restriction of Chemicals;
RQ - Reportable Quantity;
SADT - Self-Accelerating Decomposition Temperature;
SARA - Superfund Amendments and Reauthorization Act;
SDS -Safety Data Sheet;
TCSI - Taiwan Chemical Substance Inventory;
TSCA - Toxic Substances Control Act (United States);
UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods;
vPvB - Very Persistent and Very Bioaccumulative

Disclaimer

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