Material Safety Data Sheet

Section I - Chemical Product and Company Identification

Material Name: Potassium Chloride, Solution (1-10%)
Chemical Family: Potassium Chloride Aqueous Solution
CAS Reg. No: NA, Blend
Distributor: Danlin Industries Corporation
Physical Address: ½ miles West of Thomas on Hwy 47
Thomas, OK 73669
Mailing Address: P.O. Box 409
Thomas, OK 73669-0409
Phone Number: (580) 661-3248
Prepared By: Danlin Industries Corporation
Emergency Number: **(800) 424-9300 CHEMTREC**
Date Issued: January 15, 2004

HMIS Rating: 1-0-0-B

Section II -Hazardous Ingredients

Components	Wt. %	CAS #	OSHA PEL	OSHA STEL	ACGIH TWA	ACGIH STEL	OTHER
Potassium Chloride	1 - 10	7447-40-7	NE	NE	NE	NE	

Section III - Hazards Identification

Emergency Overview: CAUTION!
EYE IRRITANT. OVERDOSE CAN LEAD TO HYPERKALEMIA, WEAKNESS, CARDIAC ARREST, CARDIOVASCULAR COLLAPSE, VOMITING, NAUSEA, ABDOMINAL DISCOMFORT, DIARRHEA, BLEEDING AND GASTRIC ULCERATION.

Primary Routes of Exposure: EYE CONTACT, SKIN CONTACT

Eye Contact: May cause eye irritation, burns.
Skin Contact: May cause skin irritation, sensitization.
Inhalation: Not Likely.
Ingestion: Not Likely. Overdose Can Lead to Hyperkalemia, Weakness, Cardiac Arrest, Cardiovascular Collapse, Vomiting, Nausea, Abdominal Discomfort, Diarrhea, Bleeding and Gastric Ulceration.

Signs and Symptoms of Overexposure: Eye Irritant. Overdose Can Lead to Hyperkalemia, Weakness, Cardiac Arrest, Cardiovascular Collapse, Vomiting, Nausea, Abdominal Discomfort, Diarrhea, Bleeding and Gastric Ulceration.

Target Organs: Eye, Heart, Gastric Tract
Systems Affected: Eye, Heart, Gastric Tract

Carcinogenicity: **NTP?** No **IARC Monographs?** No **OSHA Regulated?** No

Section IV - First Aid Measures

Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes, while holding eyelids apart to ensure flushing of entire surface. Get immediate medical attention.
Skin Contact: Immediately flush skin with plenty of water and scrub exposed parts with soap and water.
Inhalation: Remove to fresh air. Give artificial respiration if not breathing. Give oxygen if breathing is difficult. Keep victim warm and Get immediate medical attention.
Ingestion: Call Physician. If swallowed, give glass of water to drink and stick fingers down throat to induce vomiting. Keep victims head below knee level to prevent vomit from aspiration into lungs. ***NOTE***: Never give anything by mouth to an unconscious person.

Section V - Fire Fighting Measures

Flash Point, °F, (Setaflash) >200; None
Lower Flammability Limits N/D
Upper Flammability Limits N/D
Extinguishing Media Agents approved for surrounding fire, ie. water fog, foam, dry chemical, carbon dioxide
Special Fire Fighting Procedures. None known. Use a self contained breathing apparatus and full protective equipment.
Unusual Fire and Explosion Hazards None Known

Section VI - Accidental Release Measures

Steps To Be Taken In Case Material is Released or Spilled: Stop leak if possible. Spilled material should be contained and removed by mechanical means, such as, absorbing with inert material and placing it in a properly labeled waste receptacle. Contaminated area may be flushed with water and the resulting solution disposed of down the sewer drain.

Section VII - Handling and Storage

Precautions To Be Taken In Handling and Storing: Good housekeeping and general safe chemical hygiene protocols. Keep container closed when not in use. Store in a cool, dry, well ventilated area.

Section VIII - Exposure Controls/Personal Protective Measures

Respiratory Protection: None required.
Ventilation: No special provisions required.

Local Exhaust:	Yes, equal to fresh air
Mechanical Exhaust:	Not needed.
Special:	None

Personal Protective Equipment: Safety glasses, goggles, rubber gloves. Use of rubber apron recommended but not required. No other protective equipment required.
Other Protective Equipment: Eye wash and safety showers should be readily available
Work and Hygienic Practices: Avoid breathing chemicals, wash hands before eating, drinking or smoking

Section IX - Physical and Chemical Properties

Appearance/odor:	Clear Water White with no odor		
State:	liquid	**pH:**	3.5 to 8
Specific Gravity:	1.01 to 1.05	**Boiling Point:**	≈ 212°F
Solubility in Water:	Completely , Aqueous Solution	**Evaporation Rate:**	N/D
Melting Point:	N/D	**Viscosity:**	N/D
Vapor Pressure:	N/D	**Vapor Density:**	N/D

Section X - Stability and Reactivity

Chemical Stability	Stable
Conditions to Avoid	None
Incompatible Materials	Violent reaction with Boron Trifluoride; Sulfuric acid and potassium permanganate.
Decomposition Products	Thermal Decomposition: toxic fumes of chlorine; Oxide of potassium
Hazardous Polymerization	Will not occur

Section XI - Toxicological Information

No specific toxicity tests have been conducted on this product.

POTASSIUM CHLORIDE A human poison by ingestion. Poison experimentally by ingestion, intravenous, and intraperitoneal routes. Human systemic effects by ingestion: nausea, blood clotting changes, cardiac arrhythmias. An eye irritant. Mutation data reported.
TOXICITY DATA:
Eye effects-Rabbit, adult 500 mg/24H Mild irritation effects; Gene Conversion and Mitotic Recombination-Saccharomyces cerevisiae 400 mmol/L Cytogenetic Analysis-Hamster: lung 12 g/L; *Oral-Infant* LDLo: 938 mg/kg/2D; *Oral-Woman* TDLo: 60 mg/kg/D: Gastrointestinal tract effects, Blood effects; *Oral-Man* LDLo: 20 mg/kg: Cardiovascular effects, Gastrointestinal tract effects, Blood effects; *Oral-Rat LD50*: 2600 mg/kg; *Intraperitoneal-Rat* LD_{50}: 660 mg/kg; *Intravenous-Rat* LD_{50}: 142 mg/kg; *Oral-Mouse* LD_{50}: 383 mg/kg; *Intraperitoneal-Mouse* LD^{50}: 1181 mg/kg *Intravenous-Mouse* LD_{50}: 117 mg/kg; *Intraperitoneal-Dog*, adult LDLo: 85 mg/kg; *Oral-Guinea Pig*, adult LD_{50}: 2500 mg/kg:

Intraperitoneal-Guinea Pig, adult LDLo: 900 mg/kg

NOTE: Potassium is an essential mineral. Potassium chloride is administered orally when potassium in body has been depleted. Usual clinical dose ranges between 750 to 6,000 mg/day in the form of tablets or powder or oral solution. Aqueous solutions are used as an electrolyte replenisher.

Section XII - Ecological Considerations

Ecological testing has not been conducted on this product.

Section XIII - Disposal Considerations

Waste Classification: Material should be disposed of by disposal in approved land fill or by being diluted and washed down sewer in accordance with all federal, state, and local regulations. Under RCRA, it is the responsibility of the user of the product to determine at the time of disposal, whether the products meets RCRA criteria for hazardous waste. This is because product uses, transformations, mixtures, processes, etc. may render the resulting material hazardous.

Section XIV - Transportation Information

DEPARTMENT OF TRANSPORTATION:

DOT Proper Shipping Name:	D.O.T. Not Regulated
DOT Hazard Class:	NA
DOT Identification Number:	NA
DOT Identification Name:	NA
DOT Packaging Group:	NA
2000 ERG Guide Number:	NA

Section XV - Regulatory Information

TSCA: Components of this product are listed on the TSCA Inventory.

CERCLA: If reportable quantity of this product is accidentally spilled the incident is subject to the provisions of the Comprehensive Environmental Response, Compensation, and Liability Act and must be reported to the National Response Center by calling (800) 424-8802.

CERCLA Component	CAS #	Wt. %	RQ, lbs	Product RQ Value
None				

SARA TITLE III:

This product contains the following Extremely Hazardous Substance under EPCRA section 302/304 lists.

EHS Component	CAS#	Wt. %	RQ, lbs	TPQ, lbs
None				

Under the provisions of Title III, Sections 311/312 of the Superfund Amendments and Reauthorization Act, this product is classified into the following hazard categories:

Immediate Health _X_ Delayed Health _X_ Fire___ Pressure ___ Reactive ___

This product contains the following Section 313 Reportable Ingredients:

313 Component	CAS #	Wt. %
None		

Section XVI - Other Information

Hazardous Material Identification System Category Rating:

Health:	1
Flammability:	0
Reactivity:	0
Personal Protection:	B

This rating scheme rates health, fire, and reactivity on a scale of 0 to 4.
0 = No significant hazard 1 = Slight Hazard 2 = Moderate Hazard 3 = High Hazard 4 = Extreme Hazard

Personal Protective Equipment Guide:

A = Safety Glasses
B = Safety Glasses, Gloves
C = Safety Glasses/Goggles, Gloves, Apron
D = Gloves, Apron, Faceshield
E = Safety Glasses, Gloves, Dust Respirator
F = Safety Glasses, Gloves, Apron, Dust Respirator
G = Safety Glasses, Gloves, Vapor Respirator
H = Safety Goggles, Gloves, Apron, Vapor Respirator
I = Safety Glasses, Gloves, Apron, Dust & Vapor Respirator
J = Splash Goggles, Gloves, Apron, Dust & Vapor Respirator
K = Air Line Hood/Mask, Gloves, Full Suit, Boots
X = Ask supervisor for special handling instructions

Component data taken from Sax's Dangerous properties of Industrial Materials, 10th Edition, John Wiley & Sons; Vendor's MSDS Sheets, NIOSH "Pocket Guide to CHEMICAL HAZARDS", U.S. Department of Health and Human Resources, 1997; The Merck Index, 9th Edition, Merck & Co., Inc.; "ACGIH 2002 TLVs and BEIs", American Conference of Governmental Industrial Hygienists; "Quick Selection Guide to CHEMICAL PROTECTIVE CLOTHING", 3RD Edition, John Wiley & Sons, Inc. ,1997.

Definitions

ACGIH:	American Conference of Governmental & Industrial Hygienists
ANSI:	American National Standard Institute
BEI:	Biological Exposure Indices - individual tests via urine or exhaled air
CERCLA:	Comprehensive Emergency Response, Compensation, and Liability Act
DOT:	U.S. Department of Transportation
EPA:	U.S. Environmental Protection Agency
HMIS:	Hazardous Materials Identification System
IARC:	International Agency For Research On Cancer
LC_{50}:	Lethal Concentration 50: A calculated concentration of the substance which is expected to cause death in 50% of an entire defined experimental animal population.
LCLo:	Lethal Concentration Low: The lowest concentration of a material in air (other than LC50) that has been reported to have caused death in humans or animals.
LD_{50}:	Lethal Dose 50: A calculated concentration of the substance which is expected to cause death in 50% of an entire defined experimental animal population.
LDLo:	Lethal Dose Low: the lowest dose (other than LD_{50}) of a material introduced by any route, other than inhalation, over any given period of time in one or more divided portions and reported to have caused death in humans or animals.
MSHA:	Mine Safety and Health Administration
N/A:	Not Applicable
N/D:	Not Determined
NE:	Not Established
NFPA:	National Fire Protective Association
NIOSH:	National Institute for Occupational Safety & Health
NSF:	National Sanitation Foundation
NTP:	National Toxicology Program
OSHA:	U.S. Occupational Safety and Health Administration
PEL:	Permissible Exposure Limit
PPE:	Personal Protective Equipment
RCRA:	Resource Conservation and Recovery Act
REL:	Recommended Exposure Limit (NIOSH)
RQ:	Reportable Quantity
SARA:	Superfund Amendments and Reauthorization Act of 1986 Title III
SCBA:	Self Contained Breathing Apparatus
STEL:	Short Term Exposure Limit
TCLo:	Toxic Concentration Low: The lowest concentration of a material in air to which humans or animals have been exposed for any given period of time that has produced any toxic effect in humans or produced a carcinogenic,

	neoplastigenic, or teratogenic effect in animals or humans.
TLV:	Threshold Limit Value: A recommended upper limit or TWA concentration of a substance to which most workers can be exposed without adverse effects.
TSCA:	Toxic Substances Control Act
TWA:	Time Weighted Average
Wt:	Weight
<:	Less Than
>:	Greater Than

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