SOLVENT SYSTEMS International, Inc.
Environmental Services

Offer Sheet

Product	Potassium Chlorate, off spec
Quantity	55 lb. bags
Net weight	~59,860 lbs.
Manufacture date	
Availability	One time
Location	Steubenville, OH 43952
Date	2/4/26
COA & SDS	Attached below

Brian Svrusis
Solvent Systems International
575 Bennett Road
Elk Grove Village, IL 60007
847-323-6718 call or text
Click here for: Surplus Inventory
Solvent-Systems.com

Potassium chlorate ($KClO_3$) is a strong oxidizing agent used commercially in **controlled, specialty applications** where rapid oxygen release or combustion support is required. Unlike potassium chloride (a bulk commodity), potassium chlorate is a **regulated, lower-volume chemical** with narrower but critical end markets.
Below is a clear breakdown of its primary commercial uses.

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1. Matches & Ignition Products (largest traditional use)
Function:
Oxidizer that supplies oxygen to sustain and intensify combustion
Common products:
- Safety matches
- Strike-anywhere matches
- Ignition tips and compositions

Why used:
- Reliable ignition at low friction/heat
- Consistent burn characteristics

Typical buyers:
Match manufacturers, specialty ignition compound producers

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2. Fireworks & Pyrotechnics
Function:
Primary oxidizer in colored flames, flashes, and lift charges
Used in:
- Consumer fireworks
- Display fireworks
- Signal flares
- Smoke compositions (special blends)

Why preferred:
- Produces high oxygen output
- Supports bright, energetic reactions

Typical buyers:
Pyrotechnic manufacturers, fireworks producers, specialty chemical formulators

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3. Oxygen Generation Systems
Function:
Chemical oxygen source when decomposed by heat
Applications:
- Emergency oxygen candles (aircraft, submarines, mines)
- Breathing apparatus and safety equipment

Why used:
- Stable in storage
- Rapid oxygen release when activated

Typical buyers:
Safety equipment manufacturers, aerospace and defense suppliers

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4. Specialty Chemical Manufacturing
Used as:
- Oxidizing agent in select chemical syntheses
- Intermediate in producing certain chlorates and oxidized compounds

Examples:
- Specialty dyes
- Laboratory reagents
- Certain pharmaceuticals (historically and niche)

Typical buyers:
Specialty chemical producers, fine chemical manufacturers

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5. Explosives & Blasting Compositions (historical/limited today)
Former use:
- Oxidizer in early explosive formulations

Current status:
- Largely replaced by safer or more controlled oxidizers
- Still used in niche applications under strict regulation

Certificate of Analysis
Potassium Chlorate Technical Grade

Characteristic(s)	Minimum Value	Maximum Value	Result
Assay	REPORT%	ONLY%	98.6%
Moisture	REPORT%	ONLY%	0.04%
Insoluble	REPORT%	ONLY%	0.20%
pH	REPORT	ONLY	7.95
Hypochlorites	REPORT	ONLY	NONE
Chlorites	REPORT	ONLY	NONE
Potassium Chloride	REPORT%	ONLY%	0.18%
Bromates	REPORT%	ONLY%	0.13%
Alkaline Earths	REPORT	ONLY	PRESENT
Sodium	REPORT%	ONLY%	0.08%

Safety Data Sheet

Revision: 6
Revision Date: 09/05/2021

1.) IDENTIFICATION

Product Name: Potassium Chlorate
Product Number: PO1120
Product Formula: $KClO_3$

2.) HAZARDOUS IDENTIFICATION

Emergency Overview

OSHA Hazards

Oxidizer, Target Organ Effect, Toxic by Inhalation, Harmful by Ingestion.

Target Organs

Blood, Liver, Kidneys.

GHS Classifications

Oxidizing solids (Category 1), H271
Acute toxicity, Oral (Category 4), H302
Acute toxicity, Inhalation (Category 4), H332
Short-term (acute) aquatic hazard (Category 2), H401
Long-term (chronic) aquatic hazard (Category 2), H411

GHS Label Elements, Including Precautionary Statements

Pictogram

Signal Word: Danger

Hazard Statement(s):

H271	May cause fire or explosion; strong oxidizer.
H302 + H332	Harmful if swallowed or if inhaled.
H411	Toxic to aquatic life with long lasting effects.

Precautionary Statement(s):

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/fume/gas/mist/vapors/spray.
P264	Wash skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves/ eye protection/ face protection.
P283	Wear fire/ flame resistant/ retardant clothing.
P301 + P312 + P330	IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell. Rinse mouth.
P304 + P340 + P312	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell.
P306 + P360	IF ON CLOTHING: rinse immediately contaminated clothing and skin with plenty of water before removing clothes.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P371 + P380 + P375	In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.
P391	Collect spillage.
P501	Dispose of contents/ container to an approved waste disposal plant.

HMIS Classification

Health Hazard	2
Flammability	0
Physical Hazards	2
Chronic Health Hazard	*

NFPA Rating

Health Hazard	2
Fire	0
Reactivity Hazard	2

Potential Health Effects

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

3.) INFORMATION ON INGREDIENTS

EINECS	PERCENT	CAS NO:
223-289-7	90-100%	3811-04-9

4.) FIRST AID MEASURES

Inhalation

Get medical aid immediately. Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Skin Contact

Get medical attention immediately. Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes.

Eye Contact

Flush eyes with plenty of water for at least 15 minutes, occasionally lifting upper and lower lids. Get medical aid immediately.

Ingestion Contact

If victim I conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

Warning

Treat systematically and supportively.

5.) FIRE FIGHTING MEASURES

Extinguishing Media

I case of fire, use water, dry chemical, chemical foam, or alcohol-resistant foam. Use any means suitable for extinguishing surrounding fire. Water spray may be used to keep fire-exposed containers cool.

Special Fire Fighting Procedure

Not combustible, but substance is a strong oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition. When heated, it releases oxygen which increases combustion.

Fire and Explosion Hazards

Contact with oxidizable substances may cause extremely violent combustion. Explodes with sulfuric acid. Inflames with explosion if titrated with any organic substances, sulfur, phosphorus, sulfite, hypophosphite and other oxidizable substances. Sealed containers may rupture when heated. Sensitive to mechanical impact.

Hazardous Combustion Products

No information found.

Protective Measure in Fire

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear.

6.) ACCIDENTAL RELEASE MEASURES

Personal Precaution in Spill

Wear appropriate personal protective equipment as specified in Section 8.

Environment

Avoid runoff into storm sewers and ditches which lead to waterways. Remove all sources of ignition. Ventilate area of leak or spill.

Spill Clean Up

Clean up spills in a manner that does not disperse dust into the air. Use non-sparking tools and equipment. Reduce airborne dust and prevent scattering by moistening with water. Pick up spill for recovery or disposal and place in a closed container.

7.) HANDLING AND STORAGE

Usage Precautions

Avoid contact with skin and eyes. Avoid formation of dust and aerosols.

Usage Descriptions

Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition - No smoking

Storage Precautions

Keep containers tightly closed in a dry and well ventilated place.

Handling Precautions

Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Avoid contact with skin and eyes. Avoid contact with heat, sparks, and flame. Avoid contact with clothing and other combustible materials. Avoid ingestion and inhalation. Use with adequate ventilation. Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage and moisture. Isolate from any source of heat or ignition. Avoid storage on wood floors. Separate from incompatibles, combustibles, organic or other readily oxidizable materials. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

8.) EXPOSURE CONTROLS AND PERSONAL PROTECTION

Protective Equipment

A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, Industrial Ventilation, A Manual of Recommended Practices, most recent edition, for details.

Process Conditions

No Airborne Exposure Limits established.

Respirators

For conditions of use where exposure to dust or mist is apparent and engineering controls are not feasible, a particulate respirator (NIOSH type N95 or better filters) may be worn. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-face positive-pressure, air-supplied respirator. WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Protective Gloves

Wear appropriate protective gloves to prevent skin exposure.

Eye Protection

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133.

Other Protection

Wear impervious protective clothing, including boots, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Hygienic Work Practices

No information found.

9.) PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.)

White crystals or powder.

Odor

Odorless.

Odor Threshold

Not applicable.

pH

5.0-6.5 @ 61.3g/l @ 25℃ (77℉)

Melting Point/Freezing Point

356℃ (673℉)

Initial Boiling Point and Boiling Range

400℃ decomposes.

Flash Point

Not applicable.

Evaporation Rate

Not applicable.

Flammability (solid,gas)

Not applicable.

Upper/Lower Flammability or Explosive Limits

Not applicable.

Vapor Pressure

Not applicable.

Vapor Density

Not applicable.

Relative Density

2.320 g/cm3

Solubility(ies)

soluble 7g/100g H_2O @ 20°C (68°F).

Partition Coefficient: N-Octanol/Water

Not applicable.

Auto-Ignition Temperature

Not applicable.

Decomposition Temperature

No information available.

Viscosity

Not applicable.

Specific Gravity

No information available.

10.) STABILITY AND REACTIVITY

Stability

Stable under normal temperatures and pressures.

Hazardous Decomp Products

Chlorine, Oxygen, Oxides of Potassium.

Conditions to Avoid

Incompatible materials such as ammonia, combustible materials, strong reducing agents, finely powdered metals, alcohols, strong acids, sulfur and metal-sulfur compounds, sugars, and metal-phosphorus compounds.

11.) TOXICOLOGICAL INFORMATION

Toxic Dose LD 50

1870 mg/kg (oral rat)

Toxicological Info

No information found.

Inhalation

LC50 > 2000 mg/kg Rabbit

Skin

Dermal LD50 > 2000 mg/kg Rabbit

Eyes

No information found.

Medical Symptoms

No information found.

12.) ECOLOGICAL INFORMATION

Toxicity

Toxic to fish and other aquatic invertebrates.

Distribution
No information found.
Chemical Fate
No information found.

13.) DISPOSAL CONSIDERATIONS

Disposal Methods
Dispose of in a manner consistent with federal, state, and local regulations.
General Cleaning

14.) TRANSPORTATION INFORMATION

DOT-GROUND TRANSPORTATION

Proper Shipping Name

Potassium Chlorate

Hazard Class

5.1

UN Number

UN1485

Packing Group

II

IATA/IMDG REGULATIONS

Proper Shipping Name

Potassium Chlorate

Hazard Class

5.1

UN Number

UN1485

Packing Group

II

IMDG EMS

F-H, S-Q

Shipping Options for this Product Include:
UPS, FedEx, Air, Ground, Water, Rail.

Transportation Notes:
NMFC 45740-2 - CLASS 70 HST 2829.19.01.00 UPS NO AIR

15.) REGULATORY INFORMATION

CHEMICAL INVENTORY STATUS - PART 1

Ingredient	CASNO	TSCA	EINECS	China	Japan	Australia
Potassium Chlorate	3811-04-9	Yes	Yes	Yes	Yes	Yes
CHEMICAL INVENTORY STATUS - PART 2						
Ingredient	**CASNO**	**Korea**	**DSL**	**NDSL**	**Phil.**	
Potassium Chlorate	3811-04-9	Yes	Yes	No	Yes	
FEDERAL, STATE, INTERNATIONAL REGULATIONS - Part 1						
Ingredient	**CASNO**	**SARA 302**				
		RQ	**TPQ**	**LIST**		
Potassium Chlorate	3811-04-9	No	No	No		
SARA 313						
No information found.						
FEDERAL, STATE, INTERNATIONAL REGULATIONS - Part 2						
Ingredient	**CASNO**	**RCRA 261.33**		**TSCA 8(d)**		**CERCLA**
Potassium Chlorate	3811-04-9	No		No		No
ADDITIONAL ITEMS						
Chemical Weapons Convention	**Acute**	**TSCA 12(b)**	**CDTA**	**SARA 311/312**	**Reactivity**	**Chronic**
No	Yes	No	No	No	Yes	No
Fire	**Pressure**	**Australian HazChem Code**			**Poison Schedule**	**WHMIS**
No	No	No			No	No

16.) MISC. INFORMATION

Information Sources

Revision Comments

Revised November 2012 for GHS Standards. Updated 2-19-2015. Revised February 2014 to align with internal document control. Entered in new database 09.05.18.

Other Information