

Material Safety Data sheet

Section 1: Product and Company Information

Product Name	Potassium Chlorate Supplement (ITC)		
Catalogue Number	iS47090	Technical Phone	0098 21 66787291
E-mail	ibresco@gmail.com	Fax No	09391003565
Company Address	Zist Kavosh Iranian, No.432, East Kokab Av,45 Metri Golshahr, Karaj, Iran.		

Section 2: Hazards Identification

Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

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.
 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/ 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/ 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.

Hazards not otherwise classified (HNOC) or not covered by GHS

none

Section 3: Composition / Information on Ingredients**Mixture**

Component		Classification	Concentration*
Potassium chlorate			
Formula	KClO ₃	Ox. Sol. 1; Acute Tox. 4; Aquatic Acute 2; Aquatic Chronic 2; H271, H302, H332, H401, H411	<= 100 %
Molecular weight	122.55 g/mol		
CAS-No.	3811-04-9		
EC-No.	223-289-7		
Index-No.	017-004-00-3		

* Weight %

Section 4: First Aid Measures**Description of first-aid measures**

General advice	Show this material safety data sheet to the doctor in attendance.
If inhaled	After inhalation: fresh air. If breathing stops: mouth-to-mouth breathing or artificial respiration. Oxygen if necessary. Immediately call in physician.
In case of skin contact	In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.
In case of eye contact	After eye contact: rinse out with plenty of water. Remove contact lenses.
If swallowed	After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11.

Indication of any immediate medical attention and special treatment needed

No data available

Section 5: Fire Fighting Measures**Extinguishing media****Suitable extinguishing media**

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

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

Special hazards arising from the substance or mixture

Hydrogen chloride gas

Potassium oxides

Not combustible.

Avoid shock and friction.

Fire may cause evolution of:

Hydrogen chloride gas

Has a fire-promoting effect due to release of oxygen.

Ambient fire may liberate hazardous vapors.

Advice for firefighters

In the event of fire, wear self-contained breathing apparatus.

Further information

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

Section 6: Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

Environmental precautions

Do not let product enter drains.

Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

Reference to other sections

For disposal see section 13.

Section 7: Handling and Storage

Precautions for safe handling

Advice on safe handling

Work under hood. Do not inhale substance/mixture.

Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition.

Hygiene measures

Change contaminated clothing. Preventive skin protection recommended. Wash hands after working with substance. For precautions see section 2.

Conditions for safe storage, including any incompatibilities

Storage conditions Tightly closed. Separately or together with other oxidising substances only and away from sources of ignition and heat. Because of their oxidation potential these products can raise the burning rate of combustible substances substantially or ignite combustible substances on contact with them.

Recommended storage temperature see product label.

Storage class

Storage class (TRGS 510): 5.1A: Strongly oxidizing hazardous materials.

Section 8: Exposure Controls / Personal Protection

Control parameters

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Exposure controls

Appropriate engineering controls

Change contaminated clothing. Preventive skin protection recommended. Wash hands after working with substance.

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). Safety glasses.

Skin protection

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: KCL 741 Dermatril® L

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: KCL 741 Dermatril® L

Body Protection

protective clothing

Respiratory protection

required when dusts are generated. Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Control of environmental exposure

Do not let product enter drains.

Section 9: Physical and Chemical Properties

Physical state	Solid
Color	White
Odor	Odorless
Odor Threshold	Not applicable
Melting point/freezing point	Melting point/range: 356 °C (673 °F) - OECD Test Guideline 102
Initial boiling point and boiling range	400 °C 752 °F - (decomposition)
Evaporation rate	No data available
Flammability (solid, gas)	The product is not flammable. - Flammability (solids)
Upper/lower flammability or explosive limits	No data available
Flash point	Not applicable
Vapor pressure	No data available
Vapor density	No data available
Autoignition temperature	does not ignite
Decomposition temperature	does not ignite
pH	5.0 - 6.5 at 61.3 g/l at 25 °C (77 °F)
Viscosity	No data available
Water solubility	69.9 g/l at 20 °C (68 °F) - OECD Test Guideline 105 - completely soluble
Partition coefficient: n-octanol/water	No data available
Density	2.32 g/cm ³
Relative density	2.3423 °C - OECD Test Guideline 109
Explosive properties	No data available
Oxidizing properties	The substance or mixture is classified as oxidizing with the category 1.
Other safety information	
Bulk density	ca.1,200 - 1,400 kg/m ³

Section 10: Stability and Reactivity

Reactivity

No data available

Chemical stability

The product is chemically stable under standard ambient conditions (room temperature).

Possibility of hazardous reactions

Risk of explosion with:

arsenic

resins

charcoal

Powdered metals

sulfuric acid

nitrates

tannin

zinc oxide

Alcohols

organic combustible substances

Sulfides

Hydrocarbons

ammonium compounds

Reducing agents

phosphorus

hydrides

Fluorine

Alkali metals

Cyanides

alkali amides

sulfur

potassium dichromate

powdered aluminium

Germanium

Potassium

copper compounds

powdered magnesium

Nitric acid

Titanium

sugars

Organic Substances

Exothermic reaction with:

Ammonia

calcium silicide

nitrides

phosphides

chromium

Risk of ignition or formation of inflammable gases or vapours with:

sulphur dioxide

hydrogen iodide

Conditions to avoid

no information available

Incompatible materials

No data available

Hazardous decomposition products

In the event of fire: see section 5

Section 11: Toxicological Information

Information on toxicological effects

Mixture

LD50 Oral - Rat - 1,870 mg/kg

Remarks: (Regulation (EC) No 1272/2008, Annex VI)

(RTECS)

Acute toxicity

LC50 Inhalation - Rat - male and female - 4 h - > 5.1 mg/l - dust/mist (OECD Test Guideline 436)

LD50 Dermal - Rat - male and female - > 2,000 mg/kg (OECD Test Guideline 402)

Skin - Rabbit

Skin corrosion/irritation

Result: No skin irritation - 4 h

(OECD Test Guideline 404)

Eyes - Rabbit

Serious eye damage/eye irritation

Result: No eye irritation

(OECD Test Guideline 405)

Maximization Test - Guinea pig

Respiratory or skin sensitization

Result: negative

(OECD Test Guideline 406)

Test Type: Ames test

Test system: Escherichia coli/Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

Test Type: In vitro mammalian cell gene mutation test

Test system: Chinese hamster ovary cells

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

Result: negative

Test Type: In vitro mammalian cell gene mutation test

Test system: Chinese hamster lung cells

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

Result: negative

Test Type: unscheduled DNA synthesis assay

Test system: HeLa cell

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 482

Result: negative

Test Type: Micronucleus test

Species: Mouse

Cell type: Red blood cells (erythrocytes)

Application Route: Oral

Method: OECD Test Guideline 474

IARC: No ingredient of this product present at levels greater than or equal to 0.1% is

identified as probable, possible or confirmed human carcinogen by IARC.

Carcinogenicity

NTP: No ingredient 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

on OSHA's list of regulated carcinogens.

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

Repeated dose toxicity - Rat - male and female - Oral - 13 Weeks - NOAEL (No observed adverse effect level) - 100 mg/kg - LOAEL (Lowest observed adverse effect level) - 1,000 mg/kg anemia, 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., Nausea, Vomiting, Diarrhea, Hemorrhage., Liver, Convulsions To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
Stomach - Irregularities - Based on Human Evidence

Additional Information

Section 12: Ecological Information

Toxicity

Toxicity to fish	flow-through test LC50 - Oncorhynchus mykiss (rainbow trout) - > 1,000 mg/l - 96 h (US-EPA)
Toxicity to daphnia and other aquatic invertebrates	flow-through test EC50 - Daphnia magna (Water flea) - > 1,000 mg/l - 48 h (US-EPA)
Toxicity to algae	static test ErC50 - Nitzschia closterium - 1.9 mg/l - 72 h
Toxicity to bacteria	static test EC50 - activated sludge - > 1,000 mg/l - 3 h (OECD Test Guideline 209)
Toxicity to fish(Chronic toxicity)	flow-through test NOEC - Danio rerio (zebra fish) - >= 500 mg/l - 36 d (OECD Test Guideline 210)
Toxicity to daphnia and other aquatic invertebrates(Chronic toxicity)	semi-static test NOEC - Daphnia magna (Water flea) - >= 500 mg/l - 21 d (OECD Test Guideline 211)

Persistence and degradability

Biodegradability	anaerobic - Exposure time 14 d Result: 100 % - rapidly biodegradable Remarks: (ECHA)
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Bio accumulative potential

	No data available
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Mobility in soil

	No data available
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Results of PBT and vPvB assessment

	PBT/vPvB assessment not available as chemical safety assessment not required/not Conducted.
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Endocrine disrupting properties

	No data available
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Other adverse effects

	Forms toxic mixtures in water, dilution measures notwithstanding. Discharge into the environment must be avoided.
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Section 13: Disposal Consideration

**Waste treatment methods
Product**

Offer surplus and non- recyclable solutions to a licensed company. Contact a licensed professional waste disposal service to dispose of this material

Contaminated packaging

Dispose of as unused product.

Section 14: Transport Information

DOT (US)	UN number: 1485 Class: 5.1 Packing group: II Proper shipping name: Potassium chlorate Reportable Quantity (RQ): Poison Inhalation Hazard: No
IMDG	UN number: 1485 Class: 5.1 Packing group: II EMS-No: F-H, S-Q Proper shipping name: POTASSIUM CHLORATE Marine pollutant: yes
IATA	UN number: 1485 Class: 5.1 Packing group: II Proper shipping name: Potassium chlorate

Section 15: Regulatory Information

SARA 302 Components

This material does not contain any components with a section 302 EHS TPQ.

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.

Section 16: Other Information

DISCLAIMER

For R&D use only. Not for drug, household or other uses.

WARRANTY

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. *ibresco* shall not be held liable for any damage resulting from handling or from contact with the above product.

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