American Lighter, Inc.

SAFETY DATA SHEET

May be used to comply with OSHA's Hazard Communication Standard 29 CFR 1910.1200. Standard must be consulted for specific requirements.

LIGHTER

Section 1. PRODUCT AND COMPANY IDENTIFICATION

GHS Product Identifier: Model No.: Product Type: Recommended Use: Supplier: Address: General Telephone No.: Transportation Emergency Telephone No:	Lighter SE-9000 Compressed Gas Create flame to light gas appliances, candles, fire logs, charcoal, camp and fireplace fires, chafing fuel, torches, lanterns and similar items. American Lighter, Inc. 5690 Bandini Blvd., Bell, CA 90201, USA 323-266-1950 Chemtrec: 1-800-424-9300					
Section 2. HAZARDS IDENTI	FICATION					
OSHA/HCS Status:	This material is considered hazardous by OSHA Hazard Communication Standard (29 CFR 1910.1200)					
Classification:	Flammable Gas, Hazard Class 2.1					
GHS Label Elements: Hazard Pictograms						
Signal Word:	Danger					
Hazard Statements:	Extremely flammable. Contents under pressure. Keep out of reach of children.					
Precautionary Statements:	Point nozzle away from face, hands and clothing. Contains flammable gas under pressure. Do not use near sparks or open flame. Never puncture or put in fire. Never expose to heat above 122°F (50°C) or to prolonged sunlight. Be sure flame is completely out after each use. Do not use to light cigarettes, cigars or pipes. Follow all instructions and warnings provided by manufacturer of appliance, grill, outdoor stove, lantern, candle, torch, charcoal, lighter fluid or any other item when using this product. Do not keep lit for more than 30 seconds. Extreme heat is present above the visible flame. Extra care should be taken to prevent burns, injury or fire. Metal nozzle tip can get very hot. Do not touch during or immediately after use.					
Disposal:	Disposal must be in compliance with requirements of State and Federal hazmat and waste disposal regualtions.					
Section 3. COMPOSITION/IN	FORMATION ON INGREDIENTS					
Component Butane (n-Butane) Propane (n-Propane, Propyl Hy (See Section 8 for Exposure 1)	CAS Number % 106-97-8 90 rdride) 74-98-6 10 Limits.)					

Inhalation:	Causes displacement of oxygen in respiratory system. Move exposed person to fresh air. For respiratory distress give air, oxygen and administer cardio-pulmonary resuscitation as needed.					
Skin Contact:	May cause irritation to skin. Flush off immediately with water. Frozen skin should be flooded with warm water (105-115°F). Clothing frozen to skin should be thawed before removal. Seek medical attention if irritation persists.					
Eye Contact:	Aay cause burns or irritation to eye. Remove contact lenses and immediately flush with water or at least 15 minutes. Hold the eyelids open and away from the eyeballs to ensure that all surfaces are flushed thoroughly. Seek medical attention immediately.					
Ingestion:	Ingestion is considered unlikely. If accidentally swallowed obtain immediate medical attention.					
Section 5. FIRE FIGHTING M	EASURES					
Suitable Extinguishing Media:	Use carbon dioxide, dry powder or water spray to extinguish fire.					
Fire Fighting Procedures:	Confine fire to immediate area. Disperse liquid or vapor if leaks occur.					
Unusual Fire and Explosion Hazards:	Will form explosive mixtures in air. Vapors from liquified gas initially heavier than air and will spread along ground. Vapors may travel back to ignition source and flash back.					
Protective Equipment:	For large fires in confined areas, use self-contained breathing apparatus. Do not inhale combustion or erupted gases.					
Section 6. ACCIDENTAL REI	LEASE MEASURES					
Stay upwind; keep out of low an Remove all ignition sources. Ventilate area of leak to dispers All equipment used in handling For high gas concentrations us	reas (also see Section 8). se the gas. the release must be grounded. e NIOSH/MSHA approved SCBA.					
Section 7. HANDLING AND S	STORAGE					
Handling:	Keep away from heat, sparks and flame. Also keep away from food, drink and animal feed.					
Storage:	Store in a cool, dry place with adequate cross-ventilation. Do not store in temperatures exceeding 122°F (50°C) or expose to direct sunlight. Do not store with strong acids (e.g. hydrochloric acid, sulfuric acid), strong bases (e.g. sodium hydroxide, potassium hydroxide), oxidizing agents (e.g. perchlorates, peroxides, permanganates, chlorates, chlorates, chlorine, fluorine, bromine), copper and mixtures of nickel carbonyl and oxygen.					
Section 8. EXPOSURE CONT	IROLS/PERSONAL PROTECTION					
Exposure Limits:	Component, Butane (n-Butane) - 800 PPM (ACGIH TLV, NIOSH) Component, Propane (n-Propane, Propyl Hydride) - 1000 PPM (ACGIH TLV, NIOSH, OSHA PEL)					
Engineering Controls:	Ensure adequate ventilation of working area. Use only intrinsically safe electrical equipment approved for use in classified areas.					
Personal Protective Equipment:	None under normal conditions. In the event of an accidental release, firefighters and emergency personnel should wear positive pressure self-contained breathing apparatus (SCBA) (NIOSH/MHSA approved) for high concentrations. Personnel handling accidental releases or leaks should wear rubber gloves and ANSI approved chemical worker goggles.					
Section 9. PHYSICAL AND C	HEMICAL PROPERTIES					

Appearance: pH: Melting Point/Freezing Point:	Liquified gas under pressure. Clear, odorless. Not applicable. : -305ºF (-187ºC)
Initial Boiling Point and	31.1ºF (-0.5ºC) at 1,013.25 hPa
Range: Elash Boint:	< 760E (< 600C) Mathad ASTM DO2
Evanoration Rate:	<-70°F (<-00°C), Method ASTM D92 High
Flammability (solid, gas)	Gas
I ower Flammability I imit	1 8% (V)
Upper Flammability Limit:	8.5% (V)
Vapor Pressure:	2.399.8 hPa at 68°F (20°C)
Vapor Density:	$2.007 \text{ at } 70^{\circ}\text{F} (21.1^{\circ}\text{C}). \text{ (Air = 1.0)}$
Relative Density:	0.56 at 59°F (15°C)
Solubility in Water:	17 cc per 1000 cc of Water @ 170.6°F (77°C)
Partition Coefficient	Not Available
(Octanol/Water):	
Auto Ignition Temperature:	549°F (287°C)
Decomposition	Heating may cause a fire or explosion. Material does not
Temperature:	decompose at ambient temperatures. Carbon monoxide and non-combusted
	hydrocarbons (smoke) are possible hazardous decomposition products.
Section 10. STABILITY AND	REACTIVITY
Chemical Stability	Stable under normal conditions
Possibility of Hazardous	Can react with strong acids, strong oxidizers and conner
Reactions:	Explosion bazard when exposed to carbonyl/oxygen mixture
	Explosion nazara when exposed to barbony wexygen mixture.
Conditions to Avoid:	Keep away from flame, sparks, excessive temperatures and open flame.
Incompatible Materials:	Can react with strong acids, strong oxidizers and copper.
Reactivity and Hazardous	Decomposition Products: Vapors may form an explosive mixture with
5	air. Hazardous polymerization does not occur.
Section 11. TOXICOLOGICA	
Inhalation:	May cause central nervous system disorder (e.g. narcosis involving a loss of coordination, weakness, fatigue, mental confusion and blurred vision) and/or damage. Simple asphyxiant: acts by displacing oxygen in the lungs thereby diminishing the supply of oxygen available to the blood and tissues. Symptons include shortness of breath, rapid heart rate, incoordination, lethargy, headaches nausea, vomiting and disorientation. Continued lack of oxygen may result in convulsions, loss of consciousness and death. Since exercise increases the tissue need for oxygen, symptoms will occur more quickly during exertion in an oxygen-deficient environment. Expossure to high concentrations may cause cardiac sensitization.
Ingestion:	Considered unlikely.
Skin and Eye Contact:	Rapid release of liquified gases under pressure may cause frost burns of exposed tissues (skin, eye) due to evaporative cooling.
Further Information:	Chronic Effects and/or Target Organ Data - May cause central nervous system disorder (e.g. narcosis involving a loss of coordination, weakness, fatigue, mental confusion and blurred vision) and/or damage. Exposure to rapidly expanding gas or vaporizing liquid may cause frostbite (cold burn). Simple asphyxiant: acts by displacing oxygen in the lungs thereby diminishing the supply of oxygen available to the blood and tissues. Symptoms include shortness of breath, rapid heart rate, incoordination, lethargy, headaches, nausea, vomiting and disorientation. Continued lack of oxygen may result in convulsions, loss of consciousness and

Components:	Butane Propane	CAS No. 106-97-8 CAS No. 74-98-6	<u>Skin Irritation</u> : Classi Result - Skin irritatio	fication - Irritating to skin. n.		
			Eye Irritation: Classi Result - Mild eye irrit	fication - Irritating to eyes. ation.		
	NTP		No component of this greater than or equa anticipated carcinogr	s product which is present at levels I to 0.1% is identified as a known or en by NTP.		
	IARC		No component of this greater than or equa possible or confirme	s product which is present at levels I to 0.1% is identified as a probable, d human carcinogen by IARC.		
	OSHA		No component of this product which is present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.			
Section 12. ECOLOGICAL IN						
Bioaccumulation:	Accumula	tion in acquatic organis	sms is unlikely.			
Toxicity to Fish:	Not expec	ted to be harmful to ac	quatic organisms.			
Additional Ecological Information:	Liquid release is only expected to cause localized, non-persistent environmental damage, such as freezing. Biodegradation of this product may occur in soil and water. Volatilization is expected to be the most important removal process in soil and water. This product is expected to exist entirely in the vapor phase in ambient air.					
Section 13. DISPOSAL CON	SIDERATIC	NS				
Disposal:	Discharge sources.	remaining fuel from lig Dispose of empty light	yhters at a moderate ra ers in acordance with s	ate in well ventilated area without ignition state, local and federal requirements.		
Section 14. TRANSPORT IN	FORMATIO	N				
CFR:		Proper Shipping Nam UN No Class - Packing Group -	ne - Lighte 1057 2.1 None	rs FLAMMABLE 2		
DOT/TDG:		Proper Shipping Nam UN No Class - Packing Group -	ne - Lighte 1057 2.1 None	rs FLAMMABLE GAS 2		
IATA Cargo Transport:		UN No Description of the Go Class - ICAO - Labels -	1057 bods - Lighte 2.1 2.1	rs FLAMMABLE GAS 2		
IATA Passenger Transport:		UN No Description of the Go Class - ICAO - Labels -	1057 bods - Lighte 2.1 2.1	rs FLAMMABLE CAS 2		
IMDG:		UN No Description of the Go Class - IMDG - Labels - EmS Number - Marine Pollutant -	1057 Jods - Lighte 2.1 2.1 F-D S- No	rs FLAMMABLE CAS 2		

Sectoin 15. REGULATORY INFORMATION

Consumer Safety:	See ASTM F400-10, ASTM F2201-10, ISO 9994, ISO 22702, in addition to various national and regional laws, regulations and standards, such as the the Lighters Regulations of the Hazardous Products Act of Canada, CEN, EU, etc.					
Child Safety:	See 16 CFR Parts 1210 and 1212, in addition to various national and regional laws, regulations and standards, such as the Lighters Regulations of the Hazardous Products Act of Canada, CEN, EU, etc.					
CERCLA Section 103 and SARA						
Environment):	The CERCLA definition of hazardous substances contains a "petroleum exclusion" which exempts crude oil. Fractions of crude oil, and products (both finished and intermediate) from the crude oil refining process and any indigenous components of such from the CERCLA Section 103 reporting requirements. However, other federal reporting requirements, including SARA Section 304, as well as the Clean Water Act, may apply.					
TSCA Status:	Butane and Propane are on the TSCA inventory.					
DSL Status:	Butane and Propane are on the Canadian DSL list.					
SARA 311/312 Hazards:	Fire Hazard Acute Health Hazard					
PENN RTK (Pennsylvania Worker and Community Right-to-Know Law):	Components:	Butane Propane	CAS No. 106-97-8 CAS No. 74-98-6			
MASS RTK (Massachusetts Commonwealth Right-to- Know Law):	Components:	Butane Propane	CAS No. 106-97-8 CAS No. 74-98-6			
NJ RTK (New Jersey Worker and Community Right-to- Know Act):	Components: Butane CAS No. 106-97-8 Propane CAS No. 74-98-6					
California Proposition 65:	This product does not contain any chemicals known to the State of California to cause cancer, birth or any other reproductive defects.					

Section 16. OTHER INFORMATION

National Fire Protection Association (NFPA) Ratings:

Health - 1 Flammability - 4 Reactivity - 0

This information is intended solely for the use of individuals trained in the NFPA system.

Further Information:

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release, and is not to be considered a warranty or quality specification. The information relates only to the specific material components designated and may not be valid for such components used in combination with any other materials or in any process, unless specified in the text.

Revision Date: 2/2/2016

GENERAL STORAGE CODE GREEN

CHEMTREC 24 Hour Emergency USA

Phone Number (800) 424-9300

1 703-741-5500 (from anywhere in the world).

For laboratory and industrial use only.

Not for drug, food or household use.

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Section 1 Chemical Product and Company Identification

HOME SCIENCE TOOLS

665 Carbon Street Billings, MT 59102 800-860-6272 www.homesciencetools.com

Product CALCIUM CHLORIDE, DIHYDRATE

Synonyms Calcium Chloride, Hydrated

Section 2 Hazards Identification Signal word: WARNING

Pictograms: GHS07 Target organs: None known



GHS Classification: Eye irritation (Category 2A)

GHS Label information: Hazard statement:

H319: Causes serious eye irritation

Precautionary statement:

P264: Wash hands thoroughly after handling. P280: Wear protective gloves/protective clothing/eye protection/face protection. P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337+P313: If eye irritation persists: Get medical attention.

Hazards not otherwise classified:

Health hazards not otherwise classified (HHNOC) - Not Known Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3 Composition / Information on Ingredients						
CAS #	%	EINECS				
10035-04-8	100%	233-140-8 (anhydrous)				
10043-52-4	77-80%	233-140-8				
7732-18-5	15-20%	231-791-2				
7447-40-7	2-3%	231-211-8				
7647-14-5	1-2%	231-598-3				
	n Ingredients CAS # 10035-04-8 10043-52-4 7732-18-5 7447-40-7 7647-14-5	n Ingredients CAS # % 10035-04-8 100% 10043-52-4 77-80% 7732-18-5 15-20% 7447-40-7 2-3% 7647-14-5 1-2%	Ingredients EINECS CAS # % EINECS 10035-04-8 100% 233-140-8 (anhydrous) 10043-52-4 77-80% 233-140-8 7732-18-5 15-20% 231-791-2 7447-40-7 2-3% 231-211-8 7647-14-5 1-2% 231-598-3			

Section 4 First Aid Measures

INGESTION: MAY BE HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: CAUSES SERIOUS EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: MAY CAUSE IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire Fighting Measures

Suitable Extinguishing Media: Use any media suitable for extinguishing supporting fire.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Heat is generated when product mixes with water.

Section 6 Accidental Release Measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Section 7 Handling & Storage

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale dusts. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Hygroscopic material. Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8	Exposure Controls / Personal Protection						
Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)			
	Particulates not otherwise classified	None established	TWA: 15 mg/m ³ total dust	None established			

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHAapproved respirator.

Section 9 Physical & Chemical Properties							
Appearance: Solid. White flakes. Odor: No odor. Odor threshold: Data not available. pH: Data not available. Melting / Freezing point: 772°C (1422°F) Boiling point: Data not available Flash point: Not applicable	Evaporation rate (= 1): Not applicable Flammability (solid/gas): Data not available. Explosion limits: Lower / Upper: Not applicable Vapor pressure (mm Hg): Negligible Vapor density (Air = 1): Data not available Relative density (Specific gravity): Data not available Solubility(ies): Soluble in water.	Partition coefficient: Not applicable Auto-ignition temperature: Not applicable Decomposition temperature: Data not available. Viscosity: Data not available. Molecular formula: CaCl ₂ •2H ₂ O Molecular weight: 147.02					
Section 10 Stability & Reactivity							

Chemical stability: Stable

Hazardous polymerization: Will not occur.

Conditions to avoid: Hygroscopic material. Avoid moisture.

Incompatible materials: Heat is generated when mixed with water. Spattering and boiling can occur. Avoid contact with sulfuric acid. Corrosive when wet. Flammable hydrogen may be generated from contact with metals such as zinc and sodium.

Hazardous decomposition products: None known.

Section 11 Toxicological Information

Acute toxicity: Oral-rat LD50: 2100 mg/kg ; Dermal-rabbit LD50: >5000 mg/kg Skin corrosion/irritation: Data not available Bersious eye damage/irritation: Data not available Respiratory or skin sensitization: Data not available Germ cell mutagenicity: Data not available Carcinogenity: Data not available NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP. IARC: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by IARC. OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA. Reproductive toxicity: Data not available STOT-repeated exposure: Data not available STOT-repeated exposure: Data not available Aspiration hazard: Data not available Potential health effects: Inhalation: Dust may cause irritation to the upper respiratory tract (nose and throat). Ingestion: Low toxicity if swallowed. However, large amounts may result in gastrointestinal irritation or ulceration. Skin: Contact with skin may cause irritation and/or defatting on prolonged contact. Eyes: Contact with eyes may cause severe irritation and/or corneal injury. Signs and symptoms of exposure: See Potential health effects above. Additional information: RTECS #: EV9810000								
Section 12	Ecological Informa	ition						
Toxicity to fish: Le Toxicity to daphnia Toxicity to algae: N Persistence and de Mobility in soil: No Other adverse effect	pomis macrochirus (blu and other aquatic inv o data available gradability: No data a data available cts: An environmental h	egill) LC50: 8 e rtebrates: [vailable azard canno	350-10,650 i aphnia magr Bioaccumu PBT and vF be excluded	ng/L ha (water flea), LC50: Iative potential: No VB assessment: No in the event of unpro	759-3,005 mg/L data available data available fessional handling o	r disposal.		
Section 13	Disposal Conside	rations						
These disposal gu regulations may be Section 14	idelines are intended e different. Dispose o Transport Inform a	for the disp f in accorda i tion (US D(osal of catal nce with all)T / CANAD	og-size quantities o local, state and fede A TDG)	nly. Federal regul eral regulations or	ations may ap contract with	oply to empty c a licensed che	ontainer. State and/or local mical disposal agency.
UN/NA number: Hazard class: N Exceptions: No	Not applicable ot applicable t applicable	Shipping Packing 2016 ER	name: N group: No G Guide #	ot Regulated ot applicable Not applicable	Reportable Qua	antity: No	Ma	arine pollutant: No
Section 15	Regulatory Inform	ation						
A chemical is considered	d to be listed if the CAS nu	mber for the a	hydrous form	is on the Inventory list.				
Compon	ent		TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	CA Prop 65
Calcium chloride			Listed	Not listed	Not listed	Listed	Not listed	I his product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.
Section 16	Other Information							
The information contair dent determinations of IARC: International Age	ed herein is furnished with suitability and completenes ency for Research on Canc	out warranty of s of informatio er, OSHA: Occ	any kind. Em from all sourc upational Safet	ployers should use this ir ses to assure proper use y and Health Administrat	formation only as a su of these materials and ion, STOT: Specific Ta	upplement to othe I the safety and he rget Organ Toxici	r information gathe ealth of employees ty, SE: Single Expo	ered by them and must make indepen- s. NTP: National Toxicology Program, osure, RE: Repeated Exposure,

Section 1 Chemical Product and Company Identification

HOME SCIENCE TOOLS

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CHEMTREC 24 Hour Emergency USA Phone Number (800) 424-9300 1 703-741-5500 (from anywhere in the world). For laboratory and industrial use only. Not for drug, food or household use.

Product	POTASSIUM CHLORIDE	
Synonyms	Muriate of Potash / Potassium Muriate / Potassium Monochloride	
Section 2	Hazards Identification	
Signal word Pictograms Target orga	I: WARNING : No symbol required ns: None known	Precautionary statement: P312: Call a POISON CENTER or doctor if you feel unwell.
GHS Classif Acute toxicity	fication: y, oral (Category 5)	
GHS Label i H303: May b	information: Hazard statement: ne harmful if swallowed.	

Hazards not otherwise classified:

Health hazards not otherwise classified (HHNOC) - Not Known

Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3 Composition / Information on Ingredients							
Chemical Name	CAS #	%	EINECS				
Potassium chloride Sodium chloride Calcium and Magnesium chlorides and sulfates	7447-40-7 7647-14-5 Various	95.0 - 99.5% 0.3 - 3.7% 0.2 - 1.3%	231-211-8 231-598-3 Various				
- ··· · · · · · · · · · · · · · · · · ·							

Section 4 First Aid Measures

INGESTION: Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire Fighting Measures

Suitable Extinguishing Media: Carbon dioxide, dry chemical, dry sand, alcohol foam.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Section 6 Accidental Release Measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Recover for reuse if not contaminated. Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Section 7 Handling & Storage

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Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale dusts. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8	Exposure Controls / Personal Protection						
Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)			
	Particles not otherwise classified	Not established	TWA: 15 mg/m ³ total dust	Not established			

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHAapproved respirator.

Section 9 Appearance: Solia Odor: No odor.	Physical & Chemical Prop						
Appearance: Soli Odor: No odor.		Derties					
Melting / Freezing / Boiling point: 150 Flash point: Not a	d. White crystals or powder. Data not available. solution) point: 772-776°C (1423-1428°F) D0°C (2732°F) Sublimes applicable	Evaporation ra Flammability (Explosion limi Vapor pressure Vapor density Relative densit Solubility(ies):	te (=1): Data not a solid/gas): Data not ts: Lower / Upper: 1 e (mm Hg): Approxin (Air = 1): 2.57 ty (Specific gravity): 34.2 g/100 ml water	available available. Not applicable nately zero : 1.986-1.990 · @ 20°C	Partition cd Auto-igniti Decompos Viscosity: Molecular Molecular	oefficient: Data on temperature ition temperatu Data not availat formula: KCI weight: 74.56	n not available : Data not available ire: Data not available ble
Section 10	Stability & Reactivity						
Chemical stability Conditions to avo Incompatible mat chloride gas. May Steel, building mat Hazardous decon	r: Stable oid: Excessive temperatures and erials: Avoid contact with hot Nitr react violently with Bromine trifluc erials (such as cement), Bromine nposition products: None know	Hazardo heat. Hygroscop ic acid, may caus ride and may exp or Trifluoride. Po n. See above rea	us polymerization: ic material. se evolution of toxic N lode if mixed with Po tentially explosive rea ctions.	Will not occur. litrosyl chloride. Cont tassium permangana action may occur if mi	act witth other te and Sulfurio xed with Dichl	strong acids ma acid. Can reac promaleic anhyd	ay produce irritating Hydrogen t with most metals, such as Iron o Iride and Urea.
Section 11	Toxicological Information						
Skin corrosion/irr Serious eye dama Respiratory or sk Germ cell mutage Carcinogenity: D NTP: No compone IARC: No compone IARC: No compon Reproductive tox STOT-single expc STOT-repeated ep Aspiration hazarc Potential health e	ritation: Data not available age/irritation: Eyes-rabbit - 500 i in sensitization: Data not available bata not available ont of this product present at levels ent of this product present at level nent of this product present at level istity: Data not available soure: Data not available is Data not available i: Data not available iffects: none regeneratory irritation, equality	ng/24 hours - mile ble s greater than or e s greater than or els greater than or	d irritant. equal to 0.1% is identi equal to 0.1% is iden r equal to 0.1% is iden	ified as a known or ar tified as probable, po ntified as a carcinoge	nticipated carci ssible or confir n or potential d	nogen by NTP. med human card carcinogen by OS	cinogen by IARC. SHA.
Inhalation: May ca Ingestion: May ca Skin: Contact may Eyes: Contact with Signs and sympto procedures to mini Additional inform	use respiratory infration, coughing y cause mild irritation, redness. h eyes causes mild irritation includ oms of exposure: Conditions ag imize potential hazards. iation: RTECS #: TS8050000	g and shortness o bodominal crampin ling stinging, wate gravated by expo	of breath. Ig, irregular heartbeat ering and redness. sure may include kidr	ts, dehydration, and h	ypertension. h blood pressi	ure (hypertensior	n). Exercise appropriate
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5. NTI m, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook. Form 06/2015

Section 1 Chemical Product and Company Identification

HOME SCIENCE TOOLS

665 Carbon Street Billings, MT 59102 800-860-6272 www.homesciencetools.com

Page E1 of E2

CHEMTREC 24 Hour Emergency USA Phone Number (800) 424-9300 1 703-741-5500 (from anywhere in the world).

For laboratory and industrial use only. Not for drug, food or household use.

Product LITHIUM CHLORIDE

Synonyms None

Section 2 Hazards Identification

Signal word: WARNING Pictograms: GHS07

Target organs: Kidneys, Central nervous system, Reproductive system, Skin, Eyes

GHS Classification: Acute toxicity, oral (Category 4) Skin irritation (Category 2) Eye irritation (Category 2A)

GHS Label information: Hazard statement:

H302: Harmful if swallowed.

H315: Causes skin irritation.

H319: Causes serious eye irritation.

Precautionary statement:

P264: Wash hands thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P312: IF SWALLOWED: Rinse mouth. Call a POISON CENTER or doctor if you feel unwell.
P302+P352: IF ON SKIN: Wash with plenty of water and soap.
P332+P313: If skin irritation occurs: Get medical attention.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313: If eye irritation persists: Get medical attention.
P362+P364: Take off contaminated clothing and wash it before reuse.
P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.

Hazards not otherwise classified:

Health hazards not otherwise classified (HHNOC) - Not Known Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3	Composition / Information on Ingredients					
Chemical Name		CAS #	%	EINECS		
Lithium chloride		7447-41-8	>99%	231-212-3		
Section 4	First Aid Measures					

INGESTION: HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: MAY BE HARMFUL IF INHALED. MAY CAUSE RESPIRATORY TRACT IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: CAUSES SEVERE EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: MAY BE HARMFUL IF ABSORBED THROUGH SKIN. CAUSES SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire Fighting Measures

Suitable Extinguishing Media: Use any media suitable for extinguishing supporting fire.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Section 6 Accidental Release Measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Recover for reuse if not contaminated. Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Section 7 Handling & Storage

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale dusts. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. Readily absorbs moisture, keep dry.

Section 8	Exposure Controls / Personal Protection						
Evenenue Limiter	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)			
Exposure Linnes.	Lithium chloride	Not established	Not established	Not established			

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHAnirator wodr

Section 9	Physical & Chemical Pro	montine					
Annearance: Solid	T hysical & onenical Fre	perties					
Odor: No odor. Odor threshold: Da pH: 7-8 (50 g/L) Melting / Freezing p Boiling point: 1382 Flash point: Data n	White powder nta not available. point: 614°C (1137°F) °C (2520°F) ot available	Evaporation ra Flammability (Explosion limi Vapor pressur Vapor density Relative density Solubility(ies):	ate (=1): Data not a solid/gas): Data not a its: Lower / Upper: D re (mm Hg): Data not (Air = 1): Data not av (Specific gravity): 2.068 : 832 g/L @ 20°C in w	vailable available. Data not available available ailable aitacr.	Partition co Auto-ignitio Decomposi Viscosity: Molecular f Molecular v	befficient: (n-od on temperature ition temperatu Data not availat formula: LiCl weight: 42.39	ctanol / water): Low Kow: 2.66 2: Data not available ure: Data not available. ble.
Section 10	Stability & Reactivity						
Chemical stability: Conditions to avoid	Stable J: Readily absorbs moisture, k	Hazardo eep dry. This solu	bus polymerization: Notes that the second seco	Will not occur. ve to metals.			
Incompatible mater	rials: Strong oxidizers, strong	acids, and bromine	e trifluoride.				
Hazardous decomp	osition products: Hydrogen	chloride and lithiur	m compounds.				
Section 11	Toxicological Informatio	n					
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dent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

Chemical Product and Company Identification Section 1

HOME SCIENCE TOOLS

665 Carbon Street Billings, MT 59102 800-860-6272

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CHEMTREC 24 Hour Emergency USA Phone Number (800) 424-9300

1 703-741-5500 (from anywhere in the world). For laboratory and industrial use only.

www.homesciencetools.com Not for drug, food or household use. LITHIUM CARBONATE Product Synonyms Carbonic Acid, Dilithium Salt Section 2 **Hazards Identification** Signal word: DANGER Precautionary statement: Pictograms: GHS07 / GHS08 P201: Obtain special instructions before use Target organs: Eyes, Central nervous system, Skin, Kidneys P202: Do not handle until all safety precautions have been read and understood. P261: Avoid breathing dust. P264: Wash hands thoroughly after handling. P270: Do not eat, drink or smoke when using this product. P280: Wear protective gloves/protective clothing/eye protection/face protection. P301+P330+P312: IF SWALLOWED: Rinse mouth. Call a POISON CENTER or **GHS Classification:** doctor if you feel unwell. Acute toxicity, oral (Category 4) P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Eye irritation (Category 2A) Remove contact lenses, if present and easy to do. Continue rinsing. Acute toxicity, inhalation (Category 4) P337+P313: If eye irritation persists: Get medical attention Reproductive toxicity (Category 1) P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing. GHS Label information: Hazard statement: P312: Call a POISON CENTER or doctor if you feel unwell. H302: Harmful if swallowed. P405: Store locked up. H319: Causes serious eye irritation. P501: Dispose of contents/container to a licensed chemical disposal agency in H332: Harmful if inhaled. accordance with local/regional/national regulations. H360: May damage fertility or the unborn child.

Hazards not otherwise classified:

Health hazards not otherwise classified (HHNOC) - Not Known Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3	Composition / Information on Ingredients					
Chemical Name		CAS #	%	EINECS		
Lithium carbonate		554-13-2	>99%	209-062-5		
Section 4	First Aid Measures					

INGESTION: HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: HARMFUL IF INHALED. MAY CAUSE RESPIRATORY TRACT IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: CAUSES SERIOUS EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: MAY BE HARMFUL IF ABSORBED THROUGH SKIN. MAY CAUSE SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire Fighting Measures

Suitable Extinguishing Media: Use extinguishing agent suitable for type of surrounding fire.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Section 6 Accidental Release Measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Recover for reuse if not contaminated. Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Section 7 Handling & Storage

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale dusts. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8	Exposure Controls / Personal Protection					
Exposure Limiter	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)		
Exposure Limits.	Lithium carbonate	Not established	Not established	Not established		

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHAapproved respirator.

Section 9 Physical & Chemical Pr	operties					
Appearance: Solid. White powder Odor: No odor. Odor threshold: Data not available. pH: Data not available. Melting / Freezing point: 723°C (1333°F) Boiling point: 1310°C (2390°F) Flash point: Not flammable	Evaporation rate (=1): Not a Flammability (solid/gas): Data Explosion limits: Lower / Upp Vapor pressure (mm Hg): 0 Vapor density (Air = 1): Data Relative density (Specific gra Solubility(ies): 1.3 g/100 ml H	applicable a not available. ver: Not applicable not available vity): 2.1 ₂ O @ 20°C	Partition co Auto-ignitio Decomposi Viscosity: 1 Molecular fo Molecular w	efficient: Data n temperature: tion temperatur Data not availab ormula: Li ₂ CO ₃ veight: 73.89	not available : Data not available re: Data not available. le. 3	
Section 10 Stability & Reactivity						
Chemical stability: Stable Conditions to avoid: Excessive temperatures an Incompatible materials: Strong oxidizers, acids Hazardous decomposition products: Carbon o	Hazardous polymerizat d heat. and fluorines. xides, lithium oxides	ion: Will not occur.				
Section 11 Toxicological Information	on					
Skin corrosion/irritation: Data not available Serious eye damage/irritation: Data not available Respiratory or skin sensitization: Data not available Carcinogenity: Data not available Carcinogenity: Data not available NTP: No component of this product present at leve IARC: No component of this product present at leve OSHA: No component of this product present at leve OSHA: No component of this product present at leve OSHA: No component of this product present at leve STOT-single exposure: Data not available STOT-repeated exposure: Data not available STOT-repeated exposure: Data not available Potential health effects: Inhalation: Inhalation causes cough, headache, n Ingestion: Ingestion causes and pain. Eyes: Contact causes redness and pain. Signs and symptoms of exposure: Substance I procedures to minimize potential hazards. Additional information: RTECS #: OJ5800000	Acute toxicity: Oral-rat LD50: 525 mg/kg ; Inhalation-rat LC50: >2.17 mg/L/4hours Skin corrosion/irritation: Data not available Serious eye damage/irritation: Data not available Respiratory or skin sensitization: Data not available Germ cell mutagenicity: Data not available Carcinogenity: Data not available NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP. 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. OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA. CA Prop 65: M WARNINGI : This product an expose you to Lithium carbonate, which is known to the State of California to cause birth defects or other reproductive harm. Reproductive toxicity: Data not available STOT-repeated exposure: Data not available STOT-repeated exposure: Data not available STOT-repeated exposure: Data not available Aspiration hazard: Data not available Stot repeation causes cough, headache, nausea, and sore throat. Ingestion: Ingestion causes abdominal cramps, diarrhea, drowsiness, vomiting, and unconsciousness. Skin: Contact causes redness and pain. Eyes: Contact causes redness and pain. Signs and symptoms of exposure: Substance may have effect on the central nervous system and kidneys. May cause reproductive toxicity in humans. Exercise appropriate					
Section 12 Ecological Information						
Toxicity to fish: No data available Toxicity to daphnia and other aquatic invertebrates: No data available Toxicity to algae: No data available Persistence and degradability: No data available Mobility in soil: No data available Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Section 13 Disposal Considerations						
These disposal guidelines are intended for the regulations may be different. Dispose of in acception 14 Transport Information	e disposal of catalog-size quanti coordance with all local, state an	ties only. Federal regul d federal regulations or	lations may ap · contract with	ply to empty co a licensed che	ontainer. State and/or local emical disposal agency.	
UN/NA number: Net applicable Sh	nning name: Not Pogulated					
Hazard class:Not applicablePareExceptions:Not applicable201	cking group: Not applicable 6 ERG Guide # Not applicable	Reportable Qua	antity: No	Ма	arine pollutant: No	
Section 15 Regulatory Information						
A chemical is considered to be listed if the CAS number f	or the anhydrous form is on the Inventor	/ list.				
Component	TSCA CERLCA (R	Q) RCRA code	DSL	NDSL	CA Prop 65	
Lithium carbonate	Listed Not listed	Not listed	Listed	Not listed	▲ WARNING -Cancer and Reproductive Harm - www.P65Warnings.ca.gov.	
Section 16 Other Information						

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

GENERAL STORAGE CODE GREEN

Section 1 Chemical Product and Company Identification

HOME SCIENCE TOOLS

665 Carbon Street Billings, MT 59102 800-860-6272 www.homesciencetools.com

Product SODIUM CARBONATE, ANHYDROUS

Synonyms Soda Ash

Section 2 Hazards Identification

Signal word: WARNING Pictograms: GHS07 Target organs: None known.



GHS Classification: Eye irrit. (Category 2A) GHS Label information: Hazard statement: H319: Causes serious eye irritation. Precautionary statement: P264: Wash hands thoroughly after handling.

P263. Wash hands allologying alter handling. P280: Wear protective gloves/protective clothing/eye protection/face protection. P305+P351+P338: IF IN EYES: Rinse cautiously with water for several

minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337+P313: If eye irritation persists: Get medical attention.

Hazards not otherwise classified:

Health hazards not otherwise classified (HHNOC) - Not Known

Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3	Composition / Information on Ingredients					
Chemical Name		CAS #	%	EINECS		
Sodium carbonate		497-19-8	100%	207-838-8		
Section 4	First Aid Measures					

INGESTION: Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire Fighting Measures

Extinguishing Media: Use any media suitable for extinguishing supporting fire.

General information: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool. Sodium carbonate reacts with hydrated lime to form caustic soda. Special care should be taken where lime and sodium carbonate are handled in the same area.

Section 6 Accidental Release Measures

Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation. Recover for use if not contaminated. Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water. Avoid runoff into storm sewers and ditches which lead to waterways.

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CHEMTREC 24 Hour Emergency USA Phone Number (800) 424-9300 1 703-741-5500 (from anywhere in the world). For laboratory and industrial use only.

Not for drug, food or household use.

7 Handling	y &	Storage	
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Section 7

Read label on container before using. Do not wear contact lenses when working with chemicals. Keep container tightly closed. Keep out of reach of children. Use with adequate ventilation. Wash thoroughly after handling.

Handling: Use with adequate ventilation. Avoid contact with eyes, skin and clothing. Avoid ingestion. Do not inhale dusts. Wash thoroughly after handling. Remove and wash clothing before reuse.

Storage: Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8	Exposure Controls / Personal Protection					
Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)		
	Sodium carbonate	None established.	None established.	None established.		

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHAapproved respirator.

Physical & Chemical Properties Section 9 Appearance: Solid, white powder. Evaporation rate (= 1): Data not available Partition coefficient: Data not available Odor: No odor. Flammability (solid/gas): Data not available. Auto-ignition temperature: Data not available Odor threshold: Data not available Explosion limits: Lower / Upper: Not flammable Decomposition temperature: 1000°C (1832°F) pH: Data not available Vapor pressure (mm Hg): Data not available Viscosity: Data not available. Molecular formula: Na₂CO₃ Melting / Freezing point: 864°C (1587°F) Vapor density (Air = 1): Data not available Relative density (Specific gravity): 2.533 Boiling point: Decomposes Molecular weight: 105.99 Flash point: Not flammable Solubility(ies): 17% @ 20°C in water Stability & Reactivity Section 10 Chemical stability: Stable Hazardous polymerization: Will not occur. Conditions to avoid: Excessive temperatures. Hygroscopic material, avoid moisture. Incompatibilities with other materials: Acids cause decompostion liberating gaseous carbon dioxide. When mixed with lime dust and water, corrosive and caustic soda may be produced. Hazardous decomposition products: Carbon dioxide. Section 11 **Toxicological Information** Acute toxicity: Oral-rat LD50: 4090 mg/kg; Inhalation-rat LC50: 2.3 mg/l/2 hours; Dermal-rat LD50: 2210 mg/kg Skin corrosion/irritation: Data not available Serious eye damage/irritation: Data not available Respiratory or skin sensitization: Data not available Germ cell mutagenicity: Data not available Carcinogenity: Data not available NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP. 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. OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA. Reproductive toxicity: Data not available STOT-single exposure: Data not available. STOT-repeated exposure: Data not available Aspiration hazard: Data not available Potential health effects: Inhalation: May be harmful if inhaled. Causes respiratory tract irritation. Ingestion: May cause irritation of the digestive tract. May be harmful if swallowed. Skin: May be harmful if absorbed through skin. Causes skin irritation. Eyes: Causes eye irritation. Signs and symptoms of exposure: Burning sensation, cough, wheezing, laryngitis, shortness of breath, headache, nausea, vomiting. Additional information: RTECS #: VZ4050000 Section 12 **Ecological Information** Toxicity to fish: LC50 - Lepomis macrochirus (Bluegill) - 300 mg/l - 96 h Toxicity to daphnia and other aquatic invertebrates: EC50 - Daphnia magna (Water flea) - 265 mg/l - 48 h Toxicity to algae: No data available Persistence and degradability: No data available Bioaccumulative potential: No data available PBT and vPvB assessment: No data available Mobility in soil: No data available Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Section 13 **Disposal Considerations** These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency. Transport Information (US DOT / CANADA TDG) Section 14 UN/NA number: Not applicable Shipping name: Not Regulated Hazard class: Not applicable Packing group: Not applicable Reportable Quantity: No Marine pollutant: No 2016 ERG Guide # Not applicable **Exceptions:** Not applicable Section 15 **Regulatory Information** A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list. DSL NDSL RCRA code Component TSCA CERLCA (RQ) CA Prop 65 This product does not contain Sodium carbonate Listed Not listed Not listed Not listed Not listed any chemicals known to the State of California to cause cancer or reproductive toxicity. Section 16 **Other Information** The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make indepen-

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.