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Section 1

Identification

### INNOVATING SCIENCE® by Aldon 221 Roc Avon, N

"Cutting edge science for the classroom"

/ Aldon 221 Rochester Street Avon, NY 14414-9409 (585) 226-6177

### CHEMTREC 24 Hour Emergency Phone Number (800) 424-9300 For laboratory and industrial use only. Not for drug, food or household use.

COBALT(II) NITRATE, 0.1 MOLAR SOLUTION Product Synonyms Cobaltous Nitrate, Aqueous Solution Section 2 Hazards identification Signal word: DANGER Precautionary statement: Pictograms: GHS07 / GHS08 / GHS09 P201: Obtain special instructions before use Target organs: Kidneys, Lungs, Thyroid P202: Do not handle until all safety precautions have been read and understood. P261: Avoid breathing mist/vapours/spray. P264: Wash hands thoroughly after handling. P270: Do not eat, drink or smoke when using this product. P272: Contaminated work clothing should not be allowed out of the workplace. **GHS Classification:** P273: Avoid release to the environment. P280: Wear protective gloves/protective clothing/eye protection/face protection. Acute toxicity, oral (Category 4) P301+P330+P312: IF SWALLOWED: Rinse mouth. Call a POISON CENTER or Skin sensitization (Category 1) Eye irritation (Category 2A) doctor if you feel unwell. Mutagenicity (Category 2) P302+P352: IF ON SKIN: Wash with plenty of water and soap. P333+P313: If skin irritation or rash occurs: Get medical attention. Carcinogenicity (Category 1B) Reproductive toxicity (Category 1B) P308+P313: IF exposed or concerned: Get medical attention. P305+P351+P338: IF IN EYES: Rinse cautiously with water for 15 minutes. Remove Aquatic acute (Category 1) Aquatic chronic (Category 1) 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. GHS Label information: Hazard statement: H302: Harmful if swallowed P391: Collect spillage. H317: May cause an allergic skin reaction. P405: Store locked up. P501: Dispose of contents/container to a licensed chemical disposal agency in H319: Causes serious eve irritation. accordance with local/regional/national regulations. H341: Suspected of causing genetic defects. H350: May cause cancer. H360: May damage fertility or the unborn child. H400: Very toxic to aquatic life. H410: Very toxic to aquatic life with long lasting effects. 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	
Water Cobalt nitrate		7732-18-5 10026-22-9	98.17% 1.83%	231-791-2 233-402-1 (anhydrous)	
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. CAUSES 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. 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: In fire conditions, water may evaporate from this solution which may cause hazardous decomposition products to be formed as dust or fume.

### 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.

#### Section 7 Handling and storage Page E2 of E2

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 vapors, spray or mist. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

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

Section 8	Exposure controls / personal protection					
Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)		
Exposure Linits.	Cobalt and inorganic compounds, as Co	TWA: 0.02 mg/m <sup>3</sup> (A3)	TWA: 0.1 mg/m <sup>3</sup> metal dust and fume	TWA: 0.05 mg/m <sup>3</sup> metal dust and fume		

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 misty conditions prevail, work in fume hood or wear a NIOSH/MSHAapproved respirator.

Section 9	Physical and chen	nical properties					
pH: Data not avai Melting / Freezing po	Data not available. ilable. proximately 0°C (32°F) (v proximately 100°C (212°F) (v	Flammability (s Explosion limit Vapor pressure vater) Vapor density vater) Relative density (	tte (Water = 1): <1 solid/gas): Data not a ts: Lower / Upper: Di e (mm Hg): 14 (water) (Air = 1): 0.7 (water) (Specific gravity): Appro Complete in water.	ata not available	Auto-ignitio Decomposi Viscosity: Molecular f		e: Data not available ure: Data not available. ble. re
Section 10	Stability and react	ivity					
Chemical stabilit Conditions to ave	ty: Stable oid: Excessive temperatu		us polymerization: W	/ill not occur.			
	terials: Oxidizers.						
Hazardous decor	mposition products: Nitr	ogen oxides.					
Section 11	Toxicological infor	mation					
Germ cell mutag Carcinogenity: I NTP: No compone IARC classified: G OSHA: No compo Ca Prop 65: This Reproductive too	kin sensitization: Data no jenicity: Data not available Data not available ent of this product present Group 2B: Possibly carcino onent of this product preser product does not contain a xicity: Data not available	e at levels greater than or e genic to humans. [Cobalt i nt at levels greater than or	nitrate] equal to 0.1% is identi	ified as a carcinogen	n or potential c	arcinogen by O	SHA.
STOT-repeated e Aspiration hazar Potential health Indation: Harmf Ingestion: Harmf Skin: Contact cau Eyes: Contact cau Signs and sympt possibly carcinoge	bosure: Data not available exposure: Data not availa rd: Data not available effects: ful if inhaled. ul in ingested. uses irritation or acid burns uses irritation or acid burns toms of exposure: The s enic to humans. Exercise	ble s. s. ubstance is irritating to ski appropriate procedures to			prolonged inh	alation may cau	use asthma. This substance is
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STOT-repeated e Aspiration hazar Potential health o Inhalation: Harmf Ingestion: Harmf Skin: Contact ca Signs and sympt possibly carcinoge Additional inform Section 12 Toxicity to fish: I Toxicity to fish: I Toxicity to dapher Toxicity to algae: Persistence and Mobility in soil: I Other adverse eff Section 13 These disposal or regulations may Section 14 UN/NA number Hazard class: Exceptions: N Section 15	osure: Data not available exposure: Data not available effects: ful if inhaled. ul in ingested. uses irritation or acid burns uses irritation or acid burns intoms of exposure: The s enic to humans. Exercise mation: RTECS #: QU73: Ecological informa LC50 (Fresh water) = 1.5 y is and other aquatic invi: LC50 (Fresh water) = 1.44 degradability: No data ar No data available ffects: An environmental h Disposal consider guidelines are intended be different. Dispose o Transport informa r: Not applicable Not applicable Not applicable Regulatory inform	ble s. s. ubstance is irritating to ski appropriate procedures to 55500 [Cobalt nitrate] aug/L [Cobalt nitrate] ertebrates: LC50 (Fresh v 4 µg/L [Cobalt nitrate] vailable Bioaccumu PBT and vF nazard cannot be excluded vailable Bioaccumu PBT and vF nazard cannot be excluded fi n accordance with all fi n accordance with all titon Shipping name: No Packing group: No 2020 ERG Guide # ation	water) = 0.61 mg/L [Col ulative potential: No d PvB assessment: No d in the event of unprofe log-size quantities or local, state and fede ot Regulated ot Regulated ot applicable Not applicable	balt nitrate] lata available data available essional handling or nly. Federal regula ral regulations or o	disposal. tions may ap	oply to empty c a licensed che	container. State and/or local emical disposal agency.
STOT-repeated e Aspiration hazar Potential health Inhalation: Harmf Ingestion: Harmf Skin: Contact caa Eyes: Contact caa Signs and sympt possibly carcinoge Additional inform Section 12 Toxicity to fish: I Toxicity to dapher Toxicity to algae: Persistence and Mobility in soil: I Other adverse eff Section 13 These disposal or regulations may Section 14 UN/NA number Hazard class: Exceptions: N Section 15 A chemical is conside	osure: Data not available exposure: Data not available effects: ful if inhaled. ul in ingested. uses irritation or acid burns uses irritation or acid burns intoms of exposure: The s enic to humans. Exercise mation: RTECS #: QU73: Ecological informa LC50 (Fresh water) = 1.5 ( nia and other aquatic invi: LC50 (Fresh water) = 144 degradability: No data ar No data available ffects: An environmental h Disposal consider guidelines are intended be different. Dispose o Transport informa r: Not applicable Not applicable Not applicable Regulatory inform lered to be listed if the CAS nu	ble s. s. ubstance is irritating to ski appropriate procedures to 55500 [Cobalt nitrate] ittion ug/L [Cobalt nitrate] ertebrates: LC50 (Fresh v 4 µg/L [Cobalt nitrate] vailable Bioaccumu PBT and vF nazard cannot be excluded ations for the disposal of catal f in accordance with all ittion Shipping name: Ni Packing group: No 2020 ERG Guide # ation mber for the anhydrous form	water) = 0.61 mg/L [Col ulative potential: No d PvB assessment: No d in the event of unprofe log-size quantities or local, state and fede ot Regulated ot Regulated ot applicable Not applicable is on the Inventory list.	balt nitrate] lata available data available essional handling or nly. Federal regulat ral regulations or o <b>Reportable Qua</b>	disposal. tions may ap contract with <b>ntity:</b> No	oply to empty c a licensed che	container. State and/or local emical disposal agency. arine pollutant: No
STOT-repeated e Aspiration hazar Potential health o Inhalation: Harmf Ingestion: Harmf Skin: Contact ca Signs and sympt possibly carcinoge Additional inform Section 12 Toxicity to fish: I Toxicity to fish: I Toxicity to dapher Toxicity to algae: Persistence and Mobility in soil: I Other adverse eff Section 13 These disposal or regulations may Section 14 UN/NA number Hazard class: Exceptions: N Section 15	osure: Data not available exposure: Data not available effects: ful if inhaled. ul in ingested. uses irritation or acid burns toms of exposure: The s enic to humans. Exercise mation: RTECS #: QU73: Ecological informa LC50 (Fresh water) = 1.5 µ nia and other aquatic invi : LC50 (Fresh water) = 1.44 degradability: No data available ffects: An environmental h Disposal consider guidelines are intended be different. Dispose o Transport informa r: Not applicable Not applicable Not applicable Regulatory inform. Iered to be listed if the CAS nu onent	ble s. s. ubstance is irritating to ski appropriate procedures to 55500 [Cobalt nitrate] aug/L [Cobalt nitrate] ertebrates: LC50 (Fresh v 4 µg/L [Cobalt nitrate] vailable Bioaccumu PBT and vF nazard cannot be excluded vailable Bioaccumu PBT and vF nazard cannot be excluded fi n accordance with all fi n accordance with all titon Shipping name: No Packing group: No 2020 ERG Guide # ation	water) = 0.61 mg/L [Col ulative potential: No d PvB assessment: No d in the event of unprofe log-size quantities or local, state and fede ot Regulated ot Regulated ot applicable Not applicable	balt nitrate] lata available data available essional handling or nly. Federal regula ral regulations or o	disposal. tions may ap	oply to empty c a licensed che	container. State and/or local emical disposal agency.

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. Form 06/2015

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Section 1

Identification

### INNOVATING SCIENCE® by Aldon 221 Roci Avon, N

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# CHEMTREC 24 Hour Emergency Phone Number (800) 424-9300 For laboratory and industrial use only.

Not for drug, food or household use.

Product COPPER(II) NITRATE, 0.1 MOLAR SOLUTION	
Synonyms Cupric Nitrate, Water Solution	
Section 2 Hazards identification	
Bignal word: WARNING         Pictograms: GHS07 / GHS09         arget organs: Liver         Image: Second Secon	<ul> <li>Precautionary statement:</li> <li>P264: Wash hands thoroughly after handling.</li> <li>P273: Avoid release to the environment.</li> <li>P280: Wear protective gloves/protective clothing/eye protection/face protection.</li> <li>P301+P312: IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwel</li> <li>P305+P351+P338: IF IN EYES: Rinse cautiously with water for 15 minutes. Remov</li> <li>contact lenses, if present and easy to do. Continue rinsing.</li> <li>P337+P313: If eye irritation persists: Get medical attention.</li> <li>P302+P352: IF ON SKIN: Wash with plenty of water and soap.</li> <li>P332+P313: If skin irritation occurs: Get medical attention.</li> <li>P362+P364: Take off contaminated clothing and wash it before reuse.</li> <li>P391: Collect spillage.</li> <li>P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.</li> </ul>

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

Section 3 Composition / informat	ion on ingredients			
Chemical Name	CAS #	%	EINECS	
Water Cupric nitrate, trihydrate	7732-18-5 10031-43-3	97.584% 2.416%	231-791-2 221-838-5 [anhydrous]	
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: 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 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 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: In fire conditions, water may evaporate from this solution which may cause hazardous decomposition products to be formed as dust or fume.

### 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.

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 vapors, spray or mist. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

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

Section 8	Exposure controls / personal protection					
Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)		
Exposure Linits.	Copper, dusts & mists, as Cu	TWA: 1 mg/m <sup>3</sup>	TWA: 1 mg/m <sup>3</sup>	TWA: 1 mg/m <sup>3</sup>		

**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 misty conditions prevail, work in fume hood or wear a NIOSH/MSHAapproved respirator.

Section 9	Physical and chem	nical properties	\$					
	Data not available. able. nt: Approximately 0°C (32°F) (v roximately 100°C (212°F) (v	(water) Relative	ration rate (Water = 1): <1 ability (solid/gas): Data not sion limits: Lower / Upper: I pressure (mm Hg): 14 (wate density (Air = 1): 0.7 (water) e density (Specific gravity): App lity(ies): Complete in water.	Data not available r)	Auto-ignit Decompo Viscosity: Molecular	•	e: Data not available ure: Data not available ble. re	9.
Section 10	Stability and reacti	tivity						
Chemical stability Conditions to avo	: Stable id: Excessive temperatu		Hazardous polymerization: evaporation.	Will not occur.				
ncompatible mate	erials: Strong oxidizing a	agents, aluminum	n cyanides, esters, sodium hyp	ophosphite, stannous	chloride and	thiocyanates.		
Hazardous decom	position products: Nitro	rogen oxides, cop	oper oxides and copper dust.					
Section 11	Toxicological infor	rmation						
OSHA: No compon Ca Prop 65: This p <b>Reproductive toxi</b>	nent of this product preser roduct does not contain a	nt at levels greate	r than or equal to 0.1% is iden er than or equal to 0.1% is ide own to the State of California	ntified as a carcinoge	n or potential	carcinogen by OS		
STOT-repeated ex Aspiration hazard Potential health ei Inhalation: Harmfu Ingestion: Harmfu Skin: Contact with Eyes: Contact with Signs and symptc procedures to minin	sure: Data not available <b>posure:</b> Data not available <b>ffects:</b> I if inhaled. I if swallowed. skin causes irritation and n eyes causes irritation and <b>ms of exposure:</b> Mater mize potential hazards.	able d/or burns. nd/or burns. rial is extremely c	lestructive to tissue of the muc	cous membranes and	upper respira	tory tract, eyes, a	and skin. Exercise app	propria
STOT-repeated ex Aspiration hazard Potential health ei Inhalation: Harmfu Ingestion: Harmfu Skin: Contact with Eyes: Contact with Signs and symptc procedures to minin	sure: Data not available posure: Data not available ffects: Il if inhaled. If swallowed. skin causes irritation and n eyes causes irritation and oms of exposure: Mater	able d/or burns. nd/or burns. rial is extremely c 75000 [Cupric nit		ous membranes and	upper respira	tory tract, eyes, a	and skin. Exercise app	propria
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STOT-repeated ex Aspiration hazard Potential health el Inhalation: Harmfu Ingestion: Harmfu Skin: Contact with Eyes: Contact with Signs and sympto procedures to minin Additional information Additional information Contection 12 Foxicity to fish: N Foxicity to fish: N Foxicity to algae: I Persistence and d Mobility in soil: N	sure: Data not available cposure: Data not available ffects: I if inhaled. I if swallowed. skin causes irritation and neyes causes irritation and is and other aquatic inve No data available is and other aquatic inve is a a a a a a a a a a a a a a a a a a a	d/or burns. nd/or burns. rial is extremely of 75000 [Cupric nit ation rertebrates: No d wailable Bit PE nazard cannot be	rate] lata available oaccumulative potential: No 8T and vPvB assessment: N	o data available lo data available		tory tract, eyes, a	and skin. Exercise app	propria
STOT-repeated ex Aspiration hazard Potential health ei Inhalation: Harmful Skin: Contact with Eyes: Contact with Eyes: Contact with Gigns and sympto procedures to minin Additional informa Section 12 Foxicity to fish: N Foxicity to fish: N Foxicity to algae: I Persistence and d Mobility in soil: N Dther adverse effe Section 13 Fhese disposal g	sure: Data not available posure: Data not available ffects: a if inhaled. if iswallowed. skin causes irritation and neyes causes irritation and the cause	d/or burns. nd/or burns. rial is extremely of 75000 [Cupric nit ation rertebrates: No d available Bio PE nazard cannot be rations for the disposa	rate] lata available oaccumulative potential: No 8T and vPvB assessment: N	o data available lo data available ofessional handling o only. Federal regul	<sup>,</sup> disposal. ations may a	pply to empty c	container. State and/	/or loc
STOT-repeated ex Aspiration hazard Potential health ei Inhalation: Harmful Ingestion: Harmful Skin: Contact with Eyes: Contact with Eyes: Contact with Gigs and sympto procedures to minin Additional informa Section 12 Foxicity to fish: N Foxicity to fish: N Foxicity to algae: I Persistence and d Mobility in soil: N Other adverse effe Section 13 These disposal gregulations may be	sure: Data not available posure: Data not available ffects: a if inhaled. if iswallowed. skin causes irritation and neyes causes irritation and the cause	d/or burns. nd/or burns. rial is extremely of 75000 [Cupric nit ation rertebrates: No d wailable Bit PE nazard cannot be rations for the disposa of in accordance	rate] lata available oaccumulative potential: No BT and vPvB assessment: N excluded in the event of unpr I of catalog-size quantities	o data available lo data available ofessional handling o only. Federal regul	<sup>,</sup> disposal. ations may a	pply to empty c	container. State and/	/or loc
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STOT-repeated ex Aspiration hazard Potential health ei nhalation: Harmful Nigestion: Harmful Skin: Contact with Signs and sympto procedures to minin Additional information additional	sure: Data not available rposure: Data not available frects: a if inhaled. if swallowed. skin causes irritation and a eyes causes irritation and a and other aquatic invertion Not data available a and other aquatic invertion Not applicable ot applicable a policable Regulatory information A applicable A A A A A A A A A A A A A A A A A A A	d/or burns. nd/or burns. rial is extremely of 75000 [Cupric nit ation rertebrates: No d wailable Bit PE hazard cannot be rations for the disposa of in accordance ation Shipping na Packing gro 2020 ERG G ation	rate] lata available oaccumulative potential: No BT and vPvB assessment: No excluded in the event of unpr I of catalog-size quantities e with all local, state and feo ame: Not Regulated oup: Not applicable Guide # Not applicable	o data available lo data available ofessional handling o only. Federal regul deral regulations or	disposal. ations may a contract with	ipply to empty c a licensed che	container. State and/ emical disposal agen	/or loc ncy.
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Form 06/2015

# **GENERAL STORAGE CODE GREEN**

Page E1 of E2

Section 1

Identification

### INNOVATING SCIENCE<sup>®</sup> by Aldon 221 Root

"Cutting edge science for the classroom"

221 Rochester Street Avon, NY 14414-9409 (585) 226-6177

### CHEMTREC 24 Hour Emergency Phone Number (800) 424-9300 For laboratory and industrial use only.

Not for drug, food or household use.

Product FERRIC NITRATE, 0.1 MOLAR SOLUTION	
Synonyms Iron (III) Nitrate, Water Solution	
Section 2 Hazards identification	
Signal word: WARNING Pictograms: GHS07 Target organs: Blood GHS Classification: Acute toxicity (Category 5) Skin irritation (Category 2) Eye irritation (Category 2B) GHS Label information: Hazard statement(s): H303: May be harmful if swallowed. H315: Causes skin irritation. H320: Causes eye irritation.	Precautionary statement(s): P264: Wash hands thoroughly after handling. P280: Wear protective gloves/protective clothing/eye protection/face protection. P302+P352: IF ON SKIN: Wash with plenty of soap and water P305+P351+P338: IF IN EYES: Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P312: Call a POISON CENTER or doctor if you feel unwell. P332+P313: If skin irritation occurs: Get medical attention. P337+P313: If eye irritation persists: Get medical attention. P362+P364: Take off contaminated clothing and wash before reuse.
Hazards not otherwise classified: Health hazards not otherwise classified (HHNOC) - Not Known	1
Physical hazards not otherwise classified (PHNOC) - Not Known	

Section 3 Composition / inform	nation on ingredients		
Chemical Name	CAS #	%	EINECS
Water Ferric nitrate, nonahydrate	7732-18-5 7782-61-8	95.96% 4.04%	231-791-2 233-899-5 (anhydrous CAS # 10421-48-4)
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: 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 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: 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: In fire conditions, water may evaporate from this solution which may cause hazardous decomposition products to be formed as dust or fume.

### 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.

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 vapors, spray or mist. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

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

Section 8	Exposure controls / personal protection					
Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)		
Exposure Linits.	Iron salts, soluble, as Fe	TWA: 1 mg/m <sup>3</sup>	None	TWA: 1 mg/m <sup>3</sup>		

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 misty conditions prevail, work in fume hood or wear a NIOSH/MSHAapproved respirator.

Section 9	Physical and cher	-			D. III		
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Section 10	Stability and react	ivity					
Chemical stability Conditions to avoi	: Stable id: Excessive temperatu		rdous polymerization: V on.	Vill not occur.			
ncompatible mate phosphite.	erials: Aluminum, cyanic	des, phosphorous, star	nous chloride, thiocyanate	e. Oxidizable mater	ials including su	Ilfur, organic ma	aterials and sodium hypo-
lazardous decom	position products: Nite	rogen oxides.					
Section 11	Toxicological info	rmation					
ARC: No compone OSHA: No compon Ca Prop 65: This pr Reproductive toxi STOT-single expo	nt of this product present ent of this product present ent of this product prese roduct does not contain a city: Data not available	at at levels greater than nt at levels greater tha any chemicals known to	or equal to 0.1% is identifi or equal to 0.1% is identifi n or equal to 0.1% is ident o the State of California to	fied as probable, po ified as a carcinoge	essible or confirm or potential ca	ned human card arcinogen by OS	0,
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Page E1 of E2

Section 1

Identification

# INNOVATING SCIENCE®

"Cutting edge science for the classroom"

by Aldon 221 Rochester Street Avon, NY 14414-9409 (585) 226-6177

### CHEMTREC 24 Hour Emergency Phone Number (800) 424-9300 For laboratory and industrial use only.

Not for drug, food or household use.

<ul> <li>H303: May be narmful if swallowed.</li> <li>H317: May cause an allergic skin reaction.</li> <li>H319: Causes serious eye irritation.</li> <li>H333: May be harmful if inhaled.</li> <li>H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.</li> <li>H341: Suspected of causing genetic defects.</li> <li>H350: May cause cancer (<i>by inhalation</i>).</li> <li>contact lenses, if present and easy to do. Continue rinsing.</li> <li>P337+P313: If eye irritation persists: Get medical attention.</li> <li>P391: Collect spillage.</li> <li>P405: Store locked up.</li> <li>P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.</li> </ul>	Product	NICKEL(II) NITRATE, 0.1	MOLAR SOLUTION	
<ul> <li>Signal word: DANGER</li> <li>Pictograms: GHS08 / GHS09</li> <li>Target organs: Immune and Central nervous systems, Kidneys, Lungs, Blood</li> <li></li></ul>	Synonyms	Nickel Nitrate, Water Solu	tion / Nickelous Nitrate, Aqueous Solution	
Pictograms: GHS08 / GHS09         Target organs: Immune and Central nervous systems, Kidneys, Lungs, Blood         Image: Control of Control of Control of Category 1: Category 5: Skin sensitization (Category 7)         Skin sensitization (Category 7)         Acute toxicity, oral (Category 1)         Eye irritation (Category 2)         Acute toxicity, inhalation (Category 5)         Reproductive toxicity (Category 1)         Acute toxicity, acute (Category 1)         Aquatic toxicity, acuse an allergic skin reaction.         H317: May cause an allergic skin reaction.         H333: May be harmful if inhaled.         H334: May cause an allergy or asthma symptoms or breathing difficulties if inhaled.         H334: May cause cancer (by inhalation).         H335: May cause cancer (by inhalation).	Section 2	Hazards identif	fication	
H360D: May damage the unborn child. H372: Causes damage to organs through prolonged or repeated exposure. H410: Very toxic to aquatic life with long lasting effects.	Pictograms: Target organ GHS Classifi Acute toxicity, Skin sensitizz Acute toxicity, Mutagenicity Reproductive Aquatic toxicit GHS Label ir H303: May be H317: May cz H331: Cause: H332: May be H334: May cz H334: Suspec H334: Suspec H360D: May H372: Cause:	GHS08 / GHS09 is: Immune and Central ner- is: Immune and Central ner- Immune and Central ner- is: Immune and Central ner- Immune and Centra	Eye irritation (Category 2A) Respiratory sensitization (Category 1) Carcinogenicity (Category 1A) STOT-RE (Category 1) Aquatic toxicity, chronic (Category 1) nent: on. ptoms or breathing difficulties if inhaled. ects.	<ul> <li>P201: Obtain special instructions before use.</li> <li>P202: Do not handle until all safety precautions have been read and understood.</li> <li>P261: Avoid breathing mist/vapours/spray.</li> <li>P264: Wash hands thoroughly after handling.</li> <li>P272: Contaminated work clothing should not be allowed out of the workplace.</li> <li>P273: Avoid release to the environment.</li> <li>P280: Wear protective gloves/protective clothing/eye protection/face protection.</li> <li>P284: Wear respiratory protection.</li> <li>P302+P352: IF ON SKIN: Wash with plenty of water and soap.</li> <li>P333+P313: If skin irritation or rash occurs: Get medical attention.</li> <li>P362+P364: Take off contaminated clothing and wash it before reuse.</li> <li>P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.</li> <li>P342+P311: If experiencing respiratory symptoms: Call a POISON CENTER or doctor.</li> <li>P305+P351+P338: IF IN EYES: Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</li> <li>P337+P313: If eye irritation persists: Get medical attention.</li> <li>P391: Collect spillage.</li> <li>P405: Store locked up.</li> <li>P501: Dispose of contents/container to a licensed chemical disposal agency in</li> </ul>

### Hazards not otherwise classified:

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

Section 3	Composition / information of	on ingredients			
Chemical Name		CAS #	%	EINECS	
Water Nickel nitrate, hexa	ahydrate	7732-18-5 13478-00-7	97.09% 2.91%	231-791-2 236-068-5 [CAS # 13138-45-9]	
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: MAY BE HARMFUL IF INHALED. MAY CAUSE ALLERGY OR ASTHMA SYMPTOMS OR BREATHING DIFFICULTIES IF INHALED. 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 AN ALLERGIC SKIN REACTION. 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: In fire conditions, water may evaporate from this solution which may cause hazardous decomposition products to be formed as dust or fume.

# 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.

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 vapors, spray or mist. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

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

Section 8	Exposure controls / personal protection						
Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)			
Exposure Limits.	Nickel, soluble compounds, as Ni	TWA: 0.1 mg/m <sup>3</sup> (A4) inhalable fraction	TWA: 1 mg/m <sup>3</sup>	TWA: 0.015 mg/m <sup>3</sup> as Ni			

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 misty conditions prevail, work in fume hood or wear a NIOSH/MSHAapproved respirator.

approved respirator.							
Section 9	Physical and chemical p	operties					
	colorless liquid. ta not available. le. Approximately 0°C (32°F) (water) kimately 100°C (212°F) (water)	Evaporation r Flammability Explosion lim Vapor pressur Vapor density Relative density	ate (Water = 1): <1 solid/gas): Data not i its: Lower / Upper: E re (mm Hg): 14 (water (Air = 1): 0.7 (water) (Specific gravity): App : Complete in water.	Data not available r)	Auto-igniti Decompos Viscosity: Molecular	•	: Data not available <b>re:</b> Data not available. <sub>I</sub> le.
Section 10	Stability and reactivity						
Chemical stability: Conditions to avoid	Stable : Excessive temperatures whi		tion.	Will not occur.			
Incompatible mater stannous chloride an	ials: Strong reducing materials d thiocyanates.	s, aluminum, boro	n phosphide, cyanides	, esters and other co	mbustibles, pł	nospham, phosph	norous, sodium hypochlorite,
Hazardous decomp	osition products: Nitrogen or	ides and nickel m	etal dust or fumes.				
Section 11 Acute toxicity: Data	Toxicological information	1					
Serious eye damag Respiratory or skin Germ cell mutageni Carcinogenity: Dat NTP: Known to be a IARC classified: Grou OSHA: Data not ava CA Prop 65: M WAR reproductive toxici STOT-single exposis STOT-repeated exp Aspiration hazard: Potential health effi Inhalation: May be h Skin: May cause an Eyes: Causes seriou Signs and sympton or repeated exposure	human carcinogen (Nickel com up 1: Carcinogenic to humans i lable. NING! :This product can exposi- ity: Data not available ure: Data not available osure: Data not available Data not available pats: armful if inhaled. May cause a armful if swallowed. allergic skin reaction. us eye irritation.	able pounds). Nickel compound se you to nickel so llergy or asthma s causing genetic o ures to minimize	Juble compounds, whi	difficulties if inhaled.			icer, birth defects, and age to organs through prolonged
Section 12	Ecological information						
Toxicity to algae: No Persistence and de Mobility in soil: No	<b>and other aquatic invertebra</b> o data available <b>gradability:</b> No data available	Bioaccum PBT and v	ulative potential: No PvB assessment: No	o data available	<sup>-</sup> disposal.		
Section 13	Disposal considerations						
	delines are intended for the different. Dispose of in acc						ontainer. State and/or local
Section 14	Transport information						
UN/NA number:	•	ping name: N	lot Regulated				
Hazard class: No		king group: N		Reportable Qua	ntity: Yes	Ма	rine pollutant: No
Exceptions: Not			Not applicable				P
Section 15	Regulatory information						
	d to be listed if the CAS number for	the anhydrous form	is on the Inventory list.				
Compone		TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	CA Prop 65
Nickel nitrate		Listed	100 lbs (45.4 Kg)	D001	Listed	Not listed	▲ WARNING -Cancer and Reproductive Harm - www.P65Warnings.ca.gov.
Section 16	Other information						
The information contain	ed herein is furnished without warra	anty of any kind. En	ployers should use this in	nformation only as a su	pplement to othe	er information gathe	ered 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. Form 06/2015

# **GENERAL STORAGE CODE GREEN**

Page E1 of E2

Section 1

Identification

#### INNOVATING SCIENCE® by Aldon 221 rot 0 24 Yor N

"Cutting edge science for the classroom"

221 Rochester Street Avon, NY 14414-9409 (585) 226-6177

### CHEMTREC 24 Hour Emergency Phone Number (800) 424-9300 For laboratory and industrial use only. Not for drug, food or household use.

ALUMINUM NITRATE, 0.1 MOLAR SOLUTION Product Synonyms Aluminum Nitrate, Water Solution Section 2 Hazards identification Signal word: WARNING Precautionary statement(s): Pictograms: GHS07 P264: Wash hands thoroughly after handling. Target organs: Liver, Kidneys, Blood P280: Wear protective gloves/protective clothing/eye protection/face protection. P301+P312: IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell. P305+P351+P338: IF IN EYES: Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337+P313: If eye irritation persists: Get medical attention. P302+P352: IF ON SKIN: Wash with plenty of soap and water **GHS Classification:** P332+P313: If skin irritation occurs: Get medical attention. Acute toxicity, oral (Category 5) P362+P364: Take off contaminated clothing and wash it before reuse. Skin irritation (Category 2) Eye irritation (Category 2A) GHS Label information: Hazard statement(s): H303: May be harmful if swallowed. H315: Causes skin irritation. H319: Causes serious eye irritation.

### 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					
Water Aluminum nitrate, nonahydrate	7732-18-5 7784-27-2	96.25% 3.75%	231-791-2 236-751-8 (anhydrous CAS # 13473-90-0)					
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: MAY BE HARMFUL IF INHALED. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: MAY CAUSE 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 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.

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 vapors, spray or mist. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

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

Section 8	Exposure controls / personal protection						
Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)			
Exposure Linits.	Aluminum nitrate	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 misty conditions prevail, work in fume hood or wear a NIOSH/MSHAapproved respirator.

Section 9	Physical and chem	nical properties							
	Data not available. lable. nt: Approximately 0°C (32°F) (v roximately 100°C (212°F) (v	Water) Relative density	rate (Water = 1): <1 (solid/gas): Data not nits: Lower / Upper: rre (mm Hg): 14 (water / (Air = 1): 0.7 (water) / (Specific gravity): App ): Complete in water.	Data not available er)	Auto-igniti Decompos Viscosity: Molecular		: Data not available Ire: Data not available. ble. e		
Section 10	Stability and react	ivity							
Chemical stability Conditions to avo	/: Stable bid: Excessive temperatu		ous polymerization: ation.	Will not occur.					
Incompatible mat	erials: Reducing agents,	organic materials.							
Hazardous decom	nposition products: Nitr	ogen oxides.							
Skin corrosion/irr Serious eye dama Respiratory or sk Germ cell mutage Carcinogenity: D NTP: No compone IARC: No compone OSHA: No compor Ca Prop 65: This p Reproductive tox: STOT-single expo STOT-repeated exp	Toxicological infor ral-rat LD50: 3,671 mg/kg ritation: Data not availabl age/irritation: Data not a in sensitization: Data not ancity: Data not available bata not available ent of this product present nent of this product present oroduct does not contain icity: Data not available spare: Data not available posure: Data not available	g [Aluminum nitrate] le vailable ot available e at levels greater than or t at levels greater than o nt at levels greater than o nny chemicals known to t	r equal to 0.1% is iden or equal to 0.1% is iden	tified as probable, pos ntified as a carcinoger	sible or confi or potential of	rmed human card carcinogen by OS			
Potential health e Inhalation: May be Ingestion: May be Skin: May cause in Eyes: May cause Signs and sympto not available. Exe Additional inform Section 12	e harmful if inhaled. harmful if swallowed. rritation. irritation. oms of exposure: To the rcise appropriate procedu lation: RTECS #: BD105 Ecological informa	ires to minimize potential 50000 [Aluminum nitrate]	I hazards.	and toxicological prop	erties have n	ot been thorough	ly investigated. Specific dat		
Potential health e Inhalation: May be Ingestion: May be Skin: May cause in Eyes: May cause is Signs and sympto not available. Exer Additional inform Section 12 Toxicity to fish: N Toxicity to fish: N Toxicity to daphni Toxicity to algae: Persistence and d Mobility in soil: N	effects: e harmful if inhaled. harmful if swallowed. rritation. irritation. oms of exposure: To the rcise appropriate procedu lation: RTECS #: BD100 Ecological informa No data available ia and other aquatic inve No data available degradability: No data available	rres to minimize potential 50000 [Aluminum nitrate] attion ertebrates: No data avai vailable Bioaccum PBT and v	l hazards. ilable nulative potential: No vPvB assessment: N	o data available o data available		ot been thorough	lly investigated. Specific dat		
Potential health e Inhalation: May be Ingestion: May be Skin: May cause i Eyes: May cause i Signs and sympto not available. Exe Additional inform Section 12 Toxicity to fish: N Toxicity to fish: N Toxicity to daphni Toxicity to algae: Persistence and o Mobility in soil: N Other adverse effor Section 13	effects: e harmful if inhaled. harmful if swallowed. rritation. irritation. oms of exposure: To the rcise appropriate procedu lation: RTECS #: BD105 Ecological informa Vo data available ia and other aquatic invo No data available degradability: No data available ects: An environmental h Disposal consider	rres to minimize potential 50000 [Aluminum nitrate] tition ertebrates: No data avai vailable Bioaccum PBT and v nazard cannot be exclude ations	I hazards. I Ilable Inulative potential: No INPVB assessment: N ad in the event of unpro	o data available o data available ofessional handling or	disposal.				
Potential health e Inhalation: May be Ingestion: May be Skin: May cause in Eyes: May cause is Signs and sympto not available. Exel Additional inform Section 12 Foxicity to fish: N Foxicity to fish: N Foxicity to daphni Foxicity to algae: Persistence and d Mobility in soil: N Other adverse effo Section 13 These disposal of	effects: a harmful if inhaled. harmful if swallowed. rritation. irritation. oms of exposure: To the rcise appropriate procedu lation: RTECS #: BD105 Ecological informa No data available degradability: No data available degradability: No data available ects: An environmental h Disposal consider uidelines are intended	res to minimize potential 50000 [Aluminum nitrate] atton ertebrates: No data avai vailable Bioaccum PBT and v nazard cannot be exclude rations for the disposal of cata	I hazards. Ilable <b>vPvB assessment:</b> No ed in the event of unpro	o data available o data available ofessional handling or only. Federal regula	disposal. ations may a	pply to empty c	container. State and/or loc		
Potential health e Inhalation: May be Ingestion: May be Skin: May cause in Eyes: May cause is Signs and sympto not available. Exer Additional inform Section 12 Toxicity to fish: N Toxicity to fish: N Toxicity to daphni Toxicity to algae: Persistence and c Mobility in soil: N Other adverse effor Section 13 These disposal g regulations may b	effects: e harmful if inhaled. harmful if swallowed. rritation. irritation. oms of exposure: To the rcise appropriate procedu lation: RTECS #: BD105 Ecological informa Vo data available ia and other aquatic invo No data available degradability: No data available ects: An environmental h Disposal consider	rres to minimize potential 50000 [Aluminum nitrate] tition ertebrates: No data avait vailable Bioaccum PBT and v nazard cannot be exclude rations for the disposal of cata f in accordance with a	I hazards. Ilable <b>vPvB assessment:</b> No ed in the event of unpro	o data available o data available ofessional handling or only. Federal regula	disposal. ations may a	pply to empty c	container. State and/or loc		
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Potential health e Inhalation: May be Ingestion: May be Skin: May cause is Eyes: May cause is Signs and sympto- not available. Exer Additional inform Section 12 Toxicity to fish: Noticity to algae: Persistence and of Mobility in soil: Nother adverse effor Section 13 These disposal gregulations may is Section 14 JN/NA number: Hazard class: Notection 15	effects: a harmful if inhaled. harmful if swallowed. rritation. irritation. oms of exposure: To the rcise appropriate procedu nation: RTECS #: BD105 Ecological informa Vo data available ia and other aquatic invo No data available degradability: No data available ects: An environmental h Disposal consider uidelines are intended be different. Dispose o Transport informa : Not applicable Not applicable	ation ares to minimize potential bouod [Aluminum nitrate] buildent	I hazards. I I hazards. I I hazards. Not Regulated Not Regulated Not applicable	o data available o data available ofessional handling or only. Federal regula leral regulations or o	disposal. ations may a contract with	pply to empty c	container. State and/or loc emical disposal agency.		
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Form 06/2015

# CORROSIVE STORAGE CODE WHITE

Page E1 of E2

Section 1

Identification

#### INNOVATING SCIENCE<sup>®</sup> by Aldon 221 Roc Worn N

"Cutting edge science for the classroom"

221 Rochester Street Avon, NY 14414-9409 (585) 226-6177 CHEMTREC 24 Hour Emergency Phone Number (800) 424-9300 For laboratory and industrial use only. Not for drug, food or household use.

Product	SODIUM HYDROXIDE, 0.8% SOLUTION					
Synonyms	Sodium Hydroxide, Water Solution (0.2M/0.2N)					
Section 2 Hazards identification						
Pictograms Target orga GHS Class Skin irritatio Eye irritation GHS Label H315: Caus	ans: Respiratory tract, gastrointestinal tract, eyes, skin.	<ul> <li>Precautionary statement:</li> <li>P264: Wash hands thoroughly after handling.</li> <li>P280: Wear protective gloves/protective clothing/eye protection/face protection.</li> <li>P302+P352: IF ON SKIN: Wash with plenty of water and soap.</li> <li>P332+P313: If skin irritation occurs: Get medical attention.</li> <li>P305+P351+P338: IF IN EYES: Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</li> <li>P337+P313: If eye irritation persists: Get medical attention.</li> <li>P362+P364: Take off contaminated clothing and wash it before reuse.</li> </ul>				

### 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	
Water Sodium hydroxide		7732-18-5 1310-73-2	99.2% 0.8%	231-791-2 215-185-5	
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 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: CAUSES 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: Dry chemical, water spray, alcohol foam. Can react with carbon dioxide to form sodium carbonate.

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: In fire conditions, water may evaporate from this solution which may cause hazardous decomposition products to be formed as dust or fume. Contact with metals can generate hydrogen gas.

### 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.

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 vapors, spray or mist. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

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

Section 8	Exposure controls / personal protection					
Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)		
Exposure Linits.	Sodium hydroxide	STEL: C 2 mg/m <sup>3</sup>	TWA: 2 mg/m <sup>3</sup>	STEL: C 2 mg/m <sup>3</sup>		

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 misty conditions prevail, work in fume hood or wear a NIOSH/MSHAapproved respirator

Section 9							
• •	Physical and chemical pro	operties					
	r, colorless liquid. ot applicable. ble. <b>point:</b> ~ 0°C (~ 32°F) [water] 10°C (212°F) [water]	Evaporation rate (Water = 1): < 1 Flammability (solid/gas): Not applica Explosion limits: Lower / Upper: Not Vapor pressure (mm Hg): 14 [water] Vapor density (Air = 1): 0.7 [water] Relative density (Specific gravity): 1 Solubility(ies): Complete in water.	ot applicable	Auto-ignit Decompo Viscosity: Molecular	ion temperature	re	
Section 10	Stability and reactivity	Stability and reactivity					
Incompatible mate	d: Can react with carbon dioxide rials: Metals, acids, organic com	Hazardous polymerization: Water for form sodium carbonate. Nopounds, organic nitro compounds. I.e. Reacts with metals to form flammabl		drogen gas.			
Section 11	Toxicological information						
Serious eye dama Respiratory or ski Germ cell mutager Carcinogenity: Da NTP: No componer IARC: No componer OSHA: No compone Ca Prop 65: This pr Reproductive toxis STOT-single expos STOT-repeated exp Aspiration hazard Potential health ef	ge/irritation: Eyes - rabbit - Sevi n sensitization: Data not available nicity: Data not available ata not available it of this product present at levels nt of this product present at levels ent of this product present at level oduct does not contain any chem city: Data not available sure: Data not available posure: Data not available : Data not available fects:	vere burns 24 h [Sodium hydroxide] ere eye irritation - 24 h [Sodium hydroxid ble greater than or equal to 0.1% is identifie s greater than or equal to 0.1% is identifi ls greater than or equal to 0.1% is identifi icals known to the State of California to	ed as a known or al ed as probable, po fied as a carcinoge	ssible or conf n or potential	irmed human car carcinogen by O		
Ingestion: May be l Skin: May be harm Eyes: Causes eye <b>Signs and sympto</b> edema, burning ser and upper respirato	harmful if swallowed. ful if absorbed through skin. Caus burns. Causes severe eye burns. <b>ms of exposure:</b> Spasm, inflam	mation and edema of the larynx, spasm, tis, shortness of breath, headache, naus	inflammation and	edema of the	bronchi, pneumo		
Ingestion: May be harm Skin: May be harm Eyes: Causes eye Signs and sympto edema, burning ser and upper respirato Additional informa Section 12	harmful if swallowed. ful if absorbed through skin. Caus burns. Causes severe eye burns. <b>ms of exposure:</b> Spasm, inflam isation, cough, wheezing, laryngil ry tract, eyes, and skin. <b>ation: RTECS #:</b> WB4900000 [S <b>Ecological information</b>	ses skin burns. mation and edema of the larynx, spasm, iis, shortness of breath, headache, naus Godium hydroxide]	inflammation and ea, vomiting. Mate	edema of the	bronchi, pneumo		
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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. Form 06/2015

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Section 1

Identification

# INNOVATING SCIENCE "Cutting edge science for the classroom"

by Aldon 221 Rochester Street Avon, NY 14414-9409 (585) 226-6177

### **CHEMTREC 24 Hour Emergency** Phone Number (800) 424-9300 For laboratory and industrial use only.

Not for drug, food or household use.

Product HYDROCHLORIC A	CID, 2 MOLAR (2 NORMAL) SOLUTION
Synonyms Muriatic Acid, Water	Solution ; Hydrogen Chloride, Water Solution
Section 2 Hazards i	dentification
Signal word: WARNING Pictograms: GHS05 Target organs: Respiratory syste Corrosive to metals (Category 1) Skin irritant (Category 3) Eye irritant (Category 2B) GHS Label information: Hazard statement(s): H290: May be corrosive to metals H316: Causes mild skin irritation. H320: Causes eye irritation. H320: Causes eye irritation.	P305+P351+P338: IF IN EYES: Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P332+P313: If skin irritation occurs: Get medical attention. P337+P313: If eye irritation persists: Get medical attention. P390: Absorb spillage to prevent material damage. P406: Store in corrosive resistant container with a resistant inner liner.

cal hazards not otherwise classified (PHNOC) - Not Known

Section 3	Composition / information on ingredients					
Chemical Name		CAS #	%	EINECS		
Water Hydrochloric acid		7732-18-5 7647-01-0	93.72% 6.28%	231-791-2 231-595-7		
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: MAY BE HARMFUL IF INHALED. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: MAY CAUSE 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: 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. Contact with metals produce hydrogen, which is flammable and may produce explosive mixtures with air.

#### 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: Neutralize spill with sodium bicarbonate or calcium hydroxide, absorb with inert dry material, sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

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 vapors, spray or mist. 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)		
Exposure Linits.	Hydrogen chloride	STEL: C 2 ppm / C 2.98 mg/m <sup>3</sup>	STEL: C 5 ppm / C 7 mg/m <sup>3</sup>	STEL: C 5 ppm / C 7 mg/m <sup>3</sup>		

**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 misty conditions prevail, work in fume hood or wear a NIOSH/MSHAapproved respirator.

approved respirator.								
Section 9	Physical and chemical pr	operties						
	ta not available. int: Approx. 0°C (32°F) [water] ox. 100°C (212°F) [water]	Flammability ( Explosion limi Vapor pressur Vapor density Relative densi	ate (=1): Data not a solid/gas): Data not ts: Upper/Lower: Di e (mm Hg): 14 [wate (Air = 1): 0.7 [water] ty (Specific gravity): : Soluble in water.	available. ata not available. ]	Auto-igniti Decompos Viscosity: Molecular	on temperature	e	
Section 10	Stability and reactivity				1			
Conditions to avoid Incompatible mater formaldehyde.	Chemical stability:       Stable       Hazardous polymerization:       Will not occur.         Conditions to avoid:       Containers may burst when heated.       Avoid contact with water.         Incompatible materials:       Metals, bases, active metals, alkali metals, oxidizing agents, hydroxides, amines, carbonates, cyanides, sulfides, sulfites,							
Section 11	Toxicological information							
Serious eye damag Respiratory or skin Germ cell mutageni Carcinogenity: Dat NTP: No componeni IARC: Group 3: Not OSHA: No compone Ca Prop 65: This pro Reproductive toxici STOT-single exposi STOT-repeated exp Aspiration hazard: Potential health effe Exercise appropriate Inhalation: May be hi Skin: May cause irrit Eyes: May cause irrit Signs and symptom	ation: Data not available at this e/irritation: Data not available sensitization: Data not available city: Data not available a not available to f this product present at level classifiable as to its carcinogen int of this product present at level duct does not contain any chen ty: Data not available ure: Data not available Data not available pota not available potes to minimize potenti armful if inhaled. Material may armful if swallowed. ation and/or burns.	at this dilution. ble s greater than or icity to humans. els greater than o nicals known to th tilution. dge the chemical al hazards. cause irritation to able at this dilutio	or equal to 0.1% is ide the State of California to , physical and toxicolo the tissue of the muc	ntified as a carcinoge o cause cancer or re gical properties have	en or potential productive toxi e not been thor	carcinogen by O city. oughly investiga		
Section 12	Ecological information							
Toxicity to daphnia Toxicity to algae: No Persistence and de Mobility in soil: No	gradability: No data available	es: No data avail Bioaccum PBT and v	able ulative potential: No PvB assessment: No	data available o data available	r disposal.			
Section 13	Disposal considerations							
regulation's may be Section 14 UN/NA number: UN Hazard class: 8	different. Dispose of in acc Transport information 1789 Shipp	ordance with all <b>bing name:</b> Hyd <b>ng group:</b> Ill	l local, state and fed		contract with	à licensed che	container. State and/or local emical disposal agency. arine pollutant: No	
Section 15	Regulatory information							
	to be listed if the CAS number for							
Compone	nt	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	CA Prop 65	
Hydrochloric acid		Listed	Not listed	D002	Listed	Not listed	This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.	
Section 16	Other information							
The information contain	ed herein is furnished without warra	nty of any kind Em	nolovers should use this i	nformation only as a su	innlement to othe	er information dath	ered 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.

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Section 1

Identification

#### INNOVATING SCIENCE<sup>®</sup> by Aldon 221 Rot Avgn. by

"Cutting edge science for the classroom"

221 Rochester Street Avon, NY 14414-9409 (585) 226-6177

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

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

Product SILVER NITRATE, 0.1 MOLAR (0.1 NORMAL) SOLUTION	
Synonyms Silver(I) Nitrate, Water Solution / Silver Nitrate, 0.1M (0.1N) Solution	
Section 2 Hazards identification	
Signal word: WARNING         Pictograms: GHS07 / GHS09         Target organs: Kidneys, Liver         Image: Signal word: Warning of the system         Image: Signal word: Signal word	<ul> <li>Precautionary statement(s):</li> <li>P264: Wash hands thoroughly after handling.</li> <li>P273: Avoid release to the environment.</li> <li>P280: Wear protective gloves/protective clothing/eye protection/face protection.</li> <li>P302+P352: IF ON SKIN: Wash with plenty of water and soap.</li> <li>P332+P313: If skin irritation occurs: Get medical attention.</li> <li>P362+P364: Take off contaminated clothing and wash it before reuse.</li> <li>P305+P351+P338: IF IN EYES: Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</li> <li>P337+P313: If eye irritation persists: Get medical attention.</li> <li>P391: Collect spillage.</li> <li>P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.</li> </ul>

### 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	
Water Silver nitrate		7732-18-5 7761-88-8	98.3% 1.7%	231-791-2 231-853-9	
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: CONTACT CAUSES SEVERE 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: CONTACT CAUSES 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: 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.

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 vapors, spray or mist. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, well-ventilated area.

Section 8	Exposure controls / personal protection				
Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)	
Exposure Limits.	Silver, soluble compounds, as Ag	TWA: 0.01 mg/m <sup>3</sup>	TWA: 0.01 mg/m <sup>3</sup>	TWA: 0.01 mg/m <sup>3</sup>	

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 misty conditions prevail, work in fume hood or wear a NIOSH/MSHA-

approved respirato							
Section 9	Physical and chemic	cal properties					
	xteristic odor. Data not available. lable. nt: Approximately 0°C (32°F) (wa roximately 100°C (212°F) (wa	Flammability ( Explosion limi Vapor pressur Vapor density Relative density	ate (Water = 1): <1 solid/gas): Data not ts: Lower / Upper: 1 e (mm Hg): 14 (wate (Air = 1): 0.7 (water) (Specific gravity): App : Complete in water.	Data not available r)	Auto-ignit Decompo Viscosity: Molecular		: Data not available Ire: Data not available. ble. re
Section 10	Stability and reactiv	ity					
Chemical stability Conditions to avo	<ul> <li>r: Stable</li> <li>rid: Excessive temperature</li> </ul>		us polymerization:	Will not occur.			
Incompatible mate	erials: Combustible materi	als, reducing agents, or	ganic substances, stro	ong basis and alkalis			
Hazardous decom	nposition products: Nitrog	gen oxides.					
Section 11	Toxicological inform	nation					
IARC: No compone OSHA: No compon Ca Prop 65: This p <b>Reproductive toxi</b>	ent of this product present at ent of this product present a ment of this product present product does not contain any	at levels greater than or at levels greater than o	equal to 0.1% is ident equal to 0.1% is iden	ified as probable, po ntified as a carcinoge	sible or confi n or potential	rmed human card carcinogen by OS	0,
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ERG: Emergency Response Guidebook.

Form 06/2015

# **GENERAL STORAGE CODE GREEN**

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Section 1

Identification

#### INNOVATING SCIENCE<sup>®</sup> by Aldon 221 ros 21 ros

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221 Rochester Street Avon, NY 14414-9409 (585) 226-6177 CHEMTREC 24 Hour Emergency Phone Number (800) 424-9300 For laboratory and industrial use only.

Not for drug, food or household use.

Product ZINC METAL	
Synonyms Zinc / Zinc Metal Mossy	
Section 2 Hazards identification	
This substance or mixture has not been classified as hazardous according to the Globally Harmonized System (GHS) of Classification and Labeling of Chemicals. Signal word: Not classified Pictograms: Not classified Target organs: None known GHS Classification: Not classified GHS Label information: Hazard statement(s): Not classified Precautionary statement(s): Not classified	Supplemental information: SHARP EDGES! ABRASIVE TO SKIN. USE CARE WHEN HANDLING. Do not breathe dust. Do not get in eyes, on skin, or on clothing. Wear protective gloves/protective clothing/eye protection/face protection. Wash hands thoroughly after handling. Get medical attention if you feel unwell.

### Hazards not otherwise classified:

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

Section 3	Composition / information on ingredients				
Chemical Name		CAS #	%	EINECS	
Zinc, mossy		7440-66-6	100%	231-175-3	
Section 4	First aid measures	1			

**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:** HARMFUL IF INHALED AS FUME. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention. **EYE CONTACT:** MAY CAUSE MECHANICAL 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 DERMATITIS. 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 triclass, dry chemical fire extinguisher. Do NOT use water on fire where molten metal is present.

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. Molten metals produce fume, vapor and/or dust that may be toxic and/or a respiratory irritant. Metal reacts with oxidizing agents. Small chips, turnings, and dust with ignite readily. Dust cloud may be explosive.

### 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.

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 fumes from molten metals. 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)	
Exposure Limits.	Particulates not otherwise classified	None established	TWA: 5 mg/m <sup>3</sup> respirable fraction	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 and chemical p	roperties	
Appearance: Solid. Metallic silver-gray Odor: No odor. Odor threshold: Data not available. pH: Data not available. Melting / Freezing point: 419°C (787°F) Boiling point: 907°C (1665°F) Flash point: Not applicable	Evaporation rate (=1): Not applicable Flammability (solid/gas): Not applicable Explosion limits: Lower / Upper: Not applicable Vapor pressure (mm Hg): Data not available Vapor density (Air = 1): Data not available Relative density (Specific gravity): 7.12 Solubility(ies): Insoluble	Partition coefficient: Data not available Auto-ignition temperature: Not applicable Decomposition temperature: Data not available. Viscosity: Data not available. Molecular formula: Zn Molecular weight: 65.38
Section 10 Stability and reactivity		

Chemical stability: Stable

Section 11

Hazardous polymerization: Will not occur.

Conditions to avoid: Excessive temperatures. Hydrogen may evolve when in contact with water or damp air.

Incompatibilities with other materials: Strong acids, halogens, acids, alkalies and water.

Toxicological information

Hazardous decomposition products: Zinc oxides and zinc fumes. Reacts with water, acids or alkalies to generate hydrogen gas.

### Acute toxicity: Data not available 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: This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity. 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: Inhalation of dust or fume may cause irritation to eyes, nose, throat, and cause a metallic taste in the mouth. May cause metal fume fever or produce flu-like symptoms. Ingestion: May be harmful if swallowed. Skin: May cause dermatitis Eyes: Contact with eyes may cause mechanical irritation. Signs and symptoms of exposure: Over-heating of alloy can produce metal fumes and oxides. Over-exposure to dust and fumes may cause mouth, eye, and nose irritation. Additional information: RTECS #: None assigned 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 Bioaccumulative potential: No data available Mobility in soil: No data available

PBT and vPvB assessment: 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.

Section 14	Transport informa	ation					
UN/NA number: Hazard class: No Exceptions: Not	t applicable	Shipping name: N Packing group: No 2020 ERG Guide #	ot applicable	Reportable Qua	antity: No	Ma	arine pollutant: No
Section 15	Regulatory inform	ation					
A chemical is considered	to be listed if the CAS nu	umber for the anhydrous form	is on the Inventory list.				
Compone	nt	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	CA Prop 65
Zinc		Listed	Not listed	Not listed	Listed	Not listed	This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.
Section 16	Other information						
dent determinations of s	uitability and completenes	ss of information from all source	ces to assure proper use	e of these materials and	the safety and h	ealth of employees	ered by them and must make indepen- s. NTP: National Toxicology Program,

# GENERAL STORAGE CODE GREEN

Page E1 of E2

Section 1

Identification

### INNOVATING SCIENCE® by Aldon 221 Roc

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221 Rochester Street Avon, NY 14414-9409 (585) 226-6177 CHEMTREC 24 Hour Emergency Phone Number (800) 424-9300 For laboratory and industrial use only. Not for drug, food or household use.

COPPER WIRE Product Synonyms Copper Metal Wire Section 2 Hazards identification This substance or mixture has not been classified as hazardous according Supplemental information: to the Globally Harmonized System (GHS) of Classification and Labeling of Do not breathe dust or fumes. Do not get in eyes, on skin, or on clothing. Wear Chemicals. protective gloves/protective clothing/eye protection/face protection. Wash hands thoroughly after handling. Get medical attention if you feel unwell. Signal word: None required Pictograms: No symbol required Target organs: Liver, Kidneys GHS Classification: None required GHS Label information: Hazard statement: None required Precautionary statement: None required

### 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		
Copper wire		7440-50-8	100%	231-159-6		
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: HARMFUL IF INHALED AS FUME. 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: Use triclass, dry chemical fire extinguisher. Do NOT use water on fire where molten metal is present.

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. Molten metals produce fume, vapor and/or dust that may be toxic and/or a respiratory irritant. Metal reacts with oxidizing agents.

### 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 and storage Page E2 of E2

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 fumes from molten metals. 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)				
	Copper, dusts and mists, as Cu	TWA: 1 mg/m <sup>3</sup>	TWA: 1 mg/m <sup>3</sup>	TWA: 1 mg/m <sup>3</sup>				

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 and chemical pr	operties	
Appearance: Solid. Red-brown, lustrous metal. Turns green on exposure to moist air. Odor: No odor. Odor threshold: Data not available. pH: Data not available. Melting / Freezing point: 1083°C (1981°F) Boiling point: 2595°C (4703°F) Flash point: Not applicable	Evaporation rate ( = 1): Not applicable Flammability (solid/gas): Not applicable Explosion limits: Lower / Upper: Not applicable Vapor pressure (mm Hg): 1 mm @ 1628°C Vapor density (Air = 1): Data not available Relative density (Specific gravity): 8.92 @ 20°C Solubility(ies): Insoluble	Partition coefficient: Data not available Auto-ignition temperature: Not applicable Decomposition temperature: Data not available. Viscosity: Data not available. Molecular formula: Cu Molecular weight: 63.55
Section 10 Stability and reactivity		

Chemical stability: Stable

Hazardous polymerization: Will not occur.

Conditions to avoid: Excessive temperatures and heat. Incompatibilities with other materials: Strong oxidizers may cause a violent reaction.

Hazardous decomposition products: At temperatures above melting point, toxic fumes or vapors may be emitted.

#### Section 11 **Toxicological information**

Acute toxicity: Data not available

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: This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

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: Inhalation of dust or fumes may irritate respiratory system.

Ingestion: May be harmful if swallowed.

Skin: May cause irritation.

Eyes: If product gets into eyes, corneal abrasions may occur.

Signs and symptoms of exposure: Over-heating of alloy can produce metal fumes and oxides. Fumes of copper may cause metal fume fever with flu-like symptoms and skin and hair discolorization. Copper dust and fume cause irritation of the upper respiratory tract, metallic taste in the mouth, and nausea. Chronic poisoning results in Wilson's disease characterized by a hepatic cirrhosis, brain damage, denyelination, renal disease and copper depostion in the cornea. Additional information: RTECS #: GL5325000

#### 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 Bioaccumulative potential: No data available Mobility in soil: No data available

PBT and vPvB assessment: 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.

Section 14	mansport informa	.1011							
UN/NA number: Hazard class: Ne Exceptions: No	ot applicable	Shipping name: Packing group: 2020 ERG Guide	Not applicable	Reportable Quantity: No		Ма	Marine pollutant: No		
Section 15	Regulatory information	tion							
A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.									
Compon	ent	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	CA Prop 65		
Copper		Listed	Not listed	Not listed	Listed	Not listed	This product does not contain any chemicals known to the State of California to cause cancer or		
		1		1			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 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,									