

# Apex 22-4-9 with GAL-Xe ONE and X-Cote

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### SECTION 1: Identification

#### 1.1. Identification

Product form : Mixture  
Product name : Apex 22-4-9 with GAL-Xe ONE and X-Cote  
Product code : M753623

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Fertilizer

#### 1.3. Details of the supplier of the safety data sheet

JR Simplot Company  
P.O. Box 70013  
Boise, ID 83707  
T 1-208-336-2110

#### 1.4. Emergency telephone number

Emergency number : CHEMTREC 1-800-424-9300

### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

##### GHS-US classification

Serious eye damage/eye irritation, Category 2B H320

Full text of H statements : see section 16

#### 2.2. Label elements

##### GHS-US labelling

Signal word (GHS-US) : Warning  
Hazard statements (GHS-US) : H320 - Causes eye irritation  
Precautionary statements (GHS-US) : P264 - Wash hands, forearms and face thoroughly after handling  
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P337+P313 - If eye irritation persists: Get medical attention

#### 2.3. Other hazards

No additional information available

#### 2.4. Unknown acute toxicity (GHS US)

Not applicable

### SECTION 3: Composition/information on ingredients

#### 3.1. Substance

Not applicable

#### 3.2. Mixture

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Name	Product identifier	%	GHS-US classification
copper(II)sulfate	(CAS No) 7758-98-7		Acute Tox. 3 (Oral), H301 Skin Irrit. 2, H315
iron(II)sulfate	(CAS No) 7720-78-7		Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315
manganese(II)sulfate	(CAS No) 7785-87-7		STOT RE 2, H373
zinc sulfate	(CAS No) 7733-02-0		Acute Tox. 4 (Oral), H302 Eye Dam. 1, H318
Proprietary			Not classified

\*Chemical name, CAS number and/or exact concentration have been withheld as a trade secret

Full text of H-statements: see section 16

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

- First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
- First-aid measures after inhalation : Allow breathing of fresh air. Allow the victim to rest.
- First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.
- First-aid measures after eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

#### 4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/injuries after eye contact : Causes eye irritation.

#### 4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

- Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.
- Unsuitable extinguishing media : Do not use a heavy water stream.

#### 5.2. Special hazards arising from the substance or mixture

No additional information available

#### 5.3. Advice for firefighters

- Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

##### 6.1.1. For non-emergency personnel

- Emergency procedures : Evacuate unnecessary personnel.

##### 6.1.2. For emergency responders

- Protective equipment : Equip cleanup crew with proper protection.
- Emergency procedures : Ventilate area.

#### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

#### 6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : On land, sweep or shovel into suitable containers. Minimize generation of dust. Store away from other materials.

#### 6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

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### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour.

#### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Keep container closed when not in use.  
Incompatible products : Strong bases. Strong acids.  
Incompatible materials : Sources of ignition. Direct sunlight.

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

Proprietary		
Not applicable		
copper(II)sulfate (7758-98-7)		
Not applicable		
iron(II)sulfate (7720-78-7)		
ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup>
Not applicable		
manganese(II)sulfate (7785-87-7)		
ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	0.1 mg/m <sup>3</sup>
Not applicable		
zinc sulfate (7733-02-0)		
Not applicable		

#### 8.2. Exposure controls

Personal protective equipment : Avoid all unnecessary exposure.  
Hand protection : Wear protective gloves.  
Eye protection : Chemical goggles or safety glasses.  
Respiratory protection : Wear appropriate mask.  
Other information : Do not eat, drink or smoke during use.

### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

Physical state : Solid  
Appearance : Granules.  
Colour : Multi-colored  
Odour : Fertilizer like odor  
Odour threshold : No data available  
pH : No data available  
Melting point : No data available  
Freezing point : No data available  
Boiling point : No data available  
Flash point : No data available  
Relative evaporation rate (butylacetate=1) : No data available  
Flammability (solid, gas) : No data available  
Explosive limits : No data available  
Explosive properties : No data available  
Oxidising properties : No data available

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Vapour pressure	: No data available
Relative density	: No data available
Relative vapour density at 20 °C	: No data available
Density	: 59-63 lbs/ft <sup>3</sup>
Solubility	: Slowly soluble, coating insoluble. Water: Solubility in water of component(s) of the mixture : • ammonium nitrate: 190 g/100ml • Monoammonium Phosphate: 38 g/100ml • wax (paraffins- petroleum): insoluble • Calcium Phosphate: 1.8 g/100ml (30 °C) • potassium sulfate: 11 g/100ml • calcium carbonate: 0.0014 g/100ml • calcium sulfate: 0.25 g/100ml • copper(II)sulfate: 20 g/100ml • copper(II)oxide: insoluble • iron(III) oxide: < 0.1 g/100ml • iron(II)sulfate: 26 g/100ml • magnesium carbonate: < 0.1 g/100ml • manganese(II)oxide: insoluble • magnesium sulfate: 26 g/100ml (0 °C) • manganese(II)sulfate: 52 g/100ml (5 °C) • zinc oxide: 0.00029 g/100ml • zinc sulfate: > 54 g/100ml • sulfur: insoluble • diammoniumhydrogenphosphate: 57.5 g/100ml • urea (57-13-6): 100 g/100ml
Log Pow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

### 10.2. Chemical stability

Not established.

### 10.3. Possibility of hazardous reactions

Not established.

### 10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

### 10.5. Incompatible materials

Strong acids. Strong bases.

### 10.6. Hazardous decomposition products

fume. Carbon monoxide. Carbon dioxide.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Not classified

<b>copper(II)sulfate (7758-98-7)</b>	
LD50 oral rat	300 mg/kg (Rat)
LD50 dermal rabbit	> 1000 mg/kg (Rabbit)
ATE US (oral)	300.000 mg/kg bodyweight
<b>iron(II)sulfate (7720-78-7)</b>	
LD50 oral rat	319 mg/kg (Rat; Literature)
ATE US (oral)	319.000 mg/kg bodyweight
<b>manganese(II)sulfate (7785-87-7)</b>	
LD50 oral rat	2150 mg/kg (Rat; Experimental value)
ATE US (oral)	2150.000 mg/kg bodyweight
<b>zinc sulfate (7733-02-0)</b>	
LD50 oral rat	1000 - 2000 mg/kg (Rat)
ATE US (oral)	1000.000 mg/kg bodyweight

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Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Causes eye irritation.
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
	Based on available data, the classification criteria are not met
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
	Based on available data, the classification criteria are not met
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified
Potential adverse human health effects and symptoms	: Based on available data, the classification criteria are not met.
Symptoms/injuries after eye contact	: Causes eye irritation.

## SECTION 12: Ecological information

### 12.1. Toxicity

<b>copper(II)sulfate (7758-98-7)</b>	
LC50 fish 1	0.0199 mg/l (96 h; <i>Salmo gairdneri</i> ( <i>Oncorhynchus mykiss</i> ); Soft water)
EC50 Daphnia 1	0.01 mg/l (48 h; <i>Daphnia magna</i> ; Soft water)
LC50 fish 2	0.298 mg/l (96 h; <i>Salmo gairdneri</i> ( <i>Oncorhynchus mykiss</i> ); Hard water)
EC50 Daphnia 2	0.2 mg/l (48 h; <i>Daphnia magna</i> ; Hard water)
TLM fish 1	3.8 ppm 24 h; <i>Salmo gairdneri</i> ( <i>Oncorhynchus mykiss</i> )
Threshold limit algae 2	1.1 mg/l ( <i>Scenedesmus quadricauda</i> )
<b>iron(II)sulfate (7720-78-7)</b>	
LC50 fish 1	925 mg/l (96 h; <i>Poecilia reticulata</i> ; Heptahydrate)
EC50 Daphnia 1	7.2 mg/l (48 h; <i>Daphnia magna</i> ; Metal ion)
LC50 fish 2	100 mg/l (96 h; <i>Oryzias latipes</i> ; GLP)
EC50 Daphnia 2	152 mg/l (48 h; <i>Daphnia magna</i> ; Heptahydrate)
Threshold limit algae 1	130 mg/l (72 h; <i>Pseudokirchneriella subcapitata</i> ; Heptahydrate)
Threshold limit algae 2	3.2 mg/l (72 h; <i>Pseudokirchneriella subcapitata</i> ; Heptahydrate)
<b>manganese(II)sulfate (7785-87-7)</b>	
LC50 fish 1	2850 mg/l (96 h; <i>Colisa fasciatus</i> ; Manganese ion)
EC50 Daphnia 1	8.28 mg/l (48 h; <i>Daphnia magna</i> )
LC50 fish 2	33.8 mg/l (96 h; <i>Pimephales promelas</i> )
EC50 Daphnia 2	10 mg/l (24 h; <i>Daphnia magna</i> )
Threshold limit algae 1	25.7 mg/l ( <i>Phaeodactylum</i> ; Growth)
Threshold limit algae 2	61 mg/l (72 h; <i>Desmodesmus subspicatus</i> ; GLP)
<b>zinc sulfate (7733-02-0)</b>	
LC50 fish 1	1.7 mg/l (96 h; <i>Poecilia reticulata</i> )
EC50 Daphnia 1	1 mg/l (24 h; <i>Daphnia magna</i> )
LC50 fish 2	2.4 mg/l 96 h; <i>Salmo gairdneri</i> ( <i>Oncorhynchus mykiss</i> )
EC50 Daphnia 2	0.56 mg/l (48 h; <i>Daphnia magna</i> )
Threshold limit algae 1	136 µg/l (72 h; <i>Selenastrum capricornutum</i> ; Growth rate)
Threshold limit algae 2	24 µg/l (3 days; <i>Selenastrum capricornutum</i> ; Growth rate)

### 12.2. Persistence and degradability

<b>Apex 22-4-9 with GAL-Xe ONE and X-Cote</b>	
Persistence and degradability	Not established.

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<b>Proprietary</b>	
Persistence and degradability	Not established.
<b>copper(II)sulfate (7758-98-7)</b>	
Persistence and degradability	May cause long-term adverse effects in the environment.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable
<b>iron(II)sulfate (7720-78-7)</b>	
Persistence and degradability	Biodegradability in water: no data available. No (test)data on mobility of the substance available. Not established.
<b>manganese(II)sulfate (7785-87-7)</b>	
Persistence and degradability	Biodegradability: not applicable. No (test)data on mobility of the substance available. May cause long-term adverse effects in the environment.
ThOD	Not applicable (inorganic)
<b>zinc sulfate (7733-02-0)</b>	
Persistence and degradability	Biodegradability: not applicable. Not established.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

### 12.3. Bioaccumulative potential

<b>Apex 22-4-9 with GAL-Xe ONE and X-Cote</b>	
Bioaccumulative potential	Not established.
<b>Proprietary</b>	
Bioaccumulative potential	Not established.
<b>copper(II)sulfate (7758-98-7)</b>	
Bioaccumulative potential	Bioaccumable.
<b>iron(II)sulfate (7720-78-7)</b>	
BCF fish 1	2 - 20 (28 days; Cyprinus carpio; Heptahydrate)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500). Not established.
<b>manganese(II)sulfate (7785-87-7)</b>	
Bioaccumulative potential	No bioaccumulation data available. Not established.
<b>zinc sulfate (7733-02-0)</b>	
BCF fish 1	59 - 242 (Cyprinus carpio; Test duration: 8 weeks)
Bioaccumulative potential	Bioaccumable. Not established.

### 12.4. Mobility in soil

<b>copper(II)sulfate (7758-98-7)</b>	
Ecology - soil	Toxic to flora.

### 12.5. Other adverse effects

Effect on the global warming : No known ecological damage caused by this product.

Other information : Avoid release to the environment.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.

Ecology - waste materials : Avoid release to the environment.

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### SECTION 14: Transport information

#### Department of Transportation (DOT)

In accordance with DOT  
Not regulated for transport

#### TDG

No additional information available

#### Transport by sea

No additional information available

#### Air transport

No additional information available

### SECTION 15: Regulatory information

#### 15.1. US Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory except for:

Proprietary	CAS No	%
Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.		
copper(II)sulfate	CAS No 7758-98-7	%
zinc sulfate	CAS No 7733-02-0	%

<b>copper(II)sulfate (7758-98-7)</b>	
CERCLA RQ	10 lb
<b>iron(II)sulfate (7720-78-7)</b>	
CERCLA RQ	1000 lb
<b>zinc sulfate (7733-02-0)</b>	
CERCLA RQ	1000 lb

#### 15.2. International regulations

##### CANADA

No additional information available

##### EU-Regulations

No additional information available

##### National regulations

No additional information available

#### 15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

<b>copper(II)sulfate (7758-98-7)</b> U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List
<b>iron(II)sulfate (7720-78-7)</b> U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List

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### zinc sulfate (7733-02-0)

U.S. - Massachusetts - Right To Know List  
U.S. - New Jersey - Right to Know Hazardous Substance List  
U.S. - Pennsylvania - RTK (Right to Know) List

## SECTION 16: Other information

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Other information : None.

Full text of H-statements:

H301	Toxic if swallowed
H302	Harmful if swallowed
H315	Causes skin irritation
H318	Causes serious eye damage
H320	Causes eye irritation
H373	May cause damage to organs through prolonged or repeated exposure

SDS US (GHS HazCom 2012)

*Disclaimer: This information relates to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is to the best of our knowledge and belief, accurate and reliable as of the date compiled. However, no representation, warranty or guarantee is made as to its accuracy, reliability or completeness. NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, IS MADE CONCERNING THE INFORMATION HEREIN PROVIDED. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his own particular use. We do not accept liability for any loss or damage that may occur from the use of this information nor do we offer warranty against patent infringement.*