

# Grid Iron Plus 7-0-1

## Safety Data Sheet

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

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

Product form : Mixture  
Product name : Grid Iron Plus 7-0-1  
Product code : M77815

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

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

JR Simplot Company  
Boise, ID 83707  
T 1-208-336-2110

#### 1.4. Emergency telephone number

Emergency number : CHEMTREC 1-800-424-9300

### SECTION 2: Hazards identification

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

##### Classification (GHS-US)

Not classified

#### 2.2. Label elements

##### GHS-US labeling

No labeling applicable

#### 2.3. Other hazards

No additional information available

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

No data available

### SECTION 3: Composition/information on ingredients

#### 3.1. Substance

Not applicable

#### 3.2. Mixture

Name	Product identifier	%	Classification (GHS-US)
Proprietary			Not classified
iron(II) sulfate, heptahydrate	(CAS No) 7782-63-0		Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315
citric acid	(CAS No) 77-92-9		Skin Irrit. 2, H315 Eye Irrit. 2A, H319
manganese(II)sulfate, monohydrate	(CAS No) 10034-96-5		Eye Irrit. 2B, H320 STOT SE 3, H335

### 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 : Assure fresh air breathing. 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 : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist.

First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

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

Symptoms/injuries : Not expected to present a significant hazard under anticipated conditions of normal use.

### 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

Avoid release to the environment. 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 : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

### 6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

## 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 vapor.

### 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.

Storage temperature :  $\geq 25$  (5 - 42) °C

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

manganese(II)sulfate, monohydrate (10034-96-5)		
USA ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	0.1 mg/m <sup>3</sup>
iron(II) sulfate, heptahydrate (7782-63-0)		
USA ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup>

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### 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	: Liquid
Color	: brown
Odor	: Characteristic odour
Odor threshold	: No data available
pH	: <= 2
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: No data available
Freezing point	: <= 0 °C
Boiling point	: >= 100 °C
Flash point	: None
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Density	: >= 1.314 g/ml
Solubility	: Soluble in water. Water: Solubility in water of component(s) of the mixture : •: 59 g/100ml •: 42 g/100ml •: 100 g/100ml
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Explosive limits	: No data available

### 9.2. Other information

VOC content	: <= 10 g/l
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## 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.

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### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Acute toxicity : Not classified

<b>iron(II) sulfate, heptahydrate (7782-63-0)</b>	
LD50 oral rat	1480 mg/kg (Rat)
ATE US (oral)	1480.00000000 mg/kg body weight

<b>citric acid (77-92-9)</b>	
LD50 oral rat	3000 mg/kg (Rat; Literature study)
ATE US (oral)	3000.00000000 mg/kg body weight

Skin corrosion/irritation : Not classified.

pH: <= 2

Serious eye damage/irritation : Not classified

pH: <= 2

Respiratory or skin sensitization : 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

Based on available data, the classification criteria are not met

Aspiration hazard : Not classified

Based on available data, the classification criteria are not met

Potential Adverse human health effects and symptoms : Based on available data, the classification criteria are not met.

### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology - water : Toxic to aquatic life.

<b>manganese(II)sulfate, monohydrate (10034-96-5)</b>	
LC50 fish 1	2850 mg/l (96 h; Colisa fasciatus; Anhydrous form)
EC50 Daphnia 1	8.28 mg/l (48 h; Daphnia magna; Anhydrous form)
LC50 fish 2	33.8 mg/l (96 h; Pimephales promelas; Anhydrous form)
EC50 Daphnia 2	10 mg/l (24 h; Daphnia magna; Anhydrous form)
Threshold limit algae 1	25.7 mg/l (Phaeodactylum; Anhydrous form)

<b>iron(II) sulfate, heptahydrate (7782-63-0)</b>	
LC50 fish 1	925 mg/l (96 h; Poecilia reticulata)
EC50 Daphnia 1	7.2 mg/l (48 h; Daphnia magna; Metal ion)
LC50 fish 2	> 200 mg/l (48 h; Leuciscus idus)
EC50 Daphnia 2	152 mg/l (48 h; Daphnia magna; Anhydrous form)

<b>citric acid (77-92-9)</b>	
LC50 fish 1	2600 mg/l (48 h; Leuciscus idus; pH = 7)
EC50 Daphnia 1	120 mg/l (72 h; Daphnia magna; pH < 7)
LC50 fish 2	1516 mg/l (96 h; Lepomis macrochirus)
EC50 Daphnia 2	85 mg/l (Daphnia magna)
Threshold limit algae 1	80 mg/l (192 h; Microcystis aeruginosa; Reproduction)
Threshold limit algae 2	640 mg/l (168 h; Scenedesmus quadricauda)

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### 12.2. Persistence and degradability

Grid Iron Plus 7-0-1	
Persistence and degradability	Not established.

manganese(II)sulfate, monohydrate (10034-96-5)	
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

iron(II) sulfate, heptahydrate (7782-63-0)	
Persistence and degradability	Biodegradability in water: no data available. Biodegradability in soil: no data available. Adsorbs into the soil. Not established.

citric acid (77-92-9)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Not established.
Biochemical oxygen demand (BOD)	0.420 g O <sub>2</sub> /g substance
Chemical oxygen demand (COD)	0.728 g O <sub>2</sub> /g substance
ThOD	0.686 g O <sub>2</sub> /g substance
BOD (% of ThOD)	(20 day(s)) 0.89

Proprietary	
Persistence and degradability	Not established.

### 12.3. Bioaccumulative potential

Grid Iron Plus 7-0-1	
Bioaccumulative potential	Not established.

manganese(II)sulfate, monohydrate (10034-96-5)	
Bioaccumulative potential	Not established.

iron(II) sulfate, heptahydrate (7782-63-0)	
Bioaccumulative potential	Not bioaccumulative. Not established.

citric acid (77-92-9)	
Log Pow	-1.72 (Experimental value)
Bioaccumulative potential	Bioaccumulation: not applicable. Not established.

Proprietary	
Bioaccumulative potential	Not established.

### 12.4. Mobility in soil

No additional information available

### 12.5. Other adverse effects

- Effect on ozone layer : No additional information available
- 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 of contents/container to ... Dispose in a safe manner in accordance with local/national regulations.
- Ecology - waste materials : Avoid release to the environment.

## SECTION 14: Transport information

In accordance with DOT  
Not regulated for transport

### Additional information

- Other information : No supplementary information available.

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### ADR

Transport document description :

### 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 on the Toxic Substances Control Act (TSCA) inventory except for:

manganese(II)sulfate, monohydrate	CAS No 10034-96-5
iron(II) sulfate, heptahydrate	CAS No 7782-63-0
Proprietary	CAS No

This product or mixture does not contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

#### manganese(II)sulfate, monohydrate (10034-96-5)

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

#### iron(II) sulfate, heptahydrate (7782-63-0)

Not listed on the United States TSCA (Toxic Substances Control Act) inventory  
Not listed on SARA Section 313 (Specific toxic chemical listings)

RQ (Reportable quantity, section 304 of EPA's List of Lists) :	1000 lb
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### 15.2. International regulations

#### CANADA

No additional information available

#### EU-Regulations

No additional information available

#### Classification according to Regulation (EC) No. 1272/2008 [CLP]

#### Classification according to Directive 67/548/EEC or 1999/45/EC

Not classified

#### 15.2.2. National regulations

No additional information available

### 15.3. US State regulations

#### iron(II) sulfate, heptahydrate (7782-63-0)

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, labeling 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-phrases: see section 16:

Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A

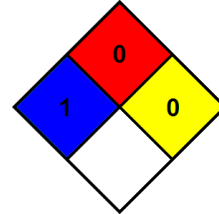
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Eye Irrit. 2B	Serious eye damage/eye irritation Category 2B
Skin Irrit. 2	Skin corrosion/irritation Category 2
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H302	Harmful if swallowed
H315	Causes skin irritation
H319	Causes serious eye irritation
H320	Causes eye irritation
H335	May cause respiratory irritation

- NFPA health hazard : 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.
- NFPA fire hazard : 0 - Materials that will not burn.
- NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.
- NFPA specific hazard : None



### HMIS III Rating

- Health : 1 Slight Hazard - Irritation or minor reversible injury possible
- Flammability : 0 Minimal Hazard
- Physical : 0 Minimal Hazard
- Personal Protection : C

SDS US (GHS HazCom 2012)

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