

Issue Date 28-Jul-2014

Revision Date 10-Aug-2017

Version 2

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

**Product identifier**

**Product Name** FeRROMEC® AC Liquid Iron 15-0-0

**Other means of identification**

**Product Code** PBI FP 9701046

**Product Size** 30 U. S. Gal.

**Recommended use of the chemical and restrictions on use**

**Recommended Use** Fertilizers.

**Uses advised against** No information available.

**Details of the supplier of the safety data sheet**

**Supplier**

PBI Gordon Corporation  
 1217 West 12th Street  
 Kansas City, MO 64101

**Manufacturer**

PBI Gordon Corporation  
 1217 West 12th Street  
 Kansas City, MO 64101

**Company Name**

PBI Gordon Corporation  
 1217 West 12th Street  
 Kansas City, MO 64101

**Emergency telephone number**

**Emergency Telephone** Chemtrec 1-800-424-9300

## 2. HAZARDS IDENTIFICATION

**Classification**

**OSHA Regulatory Status**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute Oral Toxicity	Category 4
Skin Corrosion/Irritation Category	Category 2
Serious eye damage/eye irritation	Category 2

**Label elements**

**Emergency Overview**

**Warning**

**Hazard statements**

Harmful if swallowed. Causes skin irritation. Causes serious eye irritation.



**Appearance** Liquid

**Physical state** Liquid

**Odor** No discernible odor

**Precautionary Statements - Prevention**

- Wash face, hands and any exposed skin thoroughly after handling
- Do not eat, drink or smoke when using this product
- Wear protective gloves/protective clothing/eye protection/face protection

- Avoid release to the environment

**Precautionary Statements - Response**

- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- If eye irritation persists: Get medical advice/attention
- IF ON SKIN: Wash with plenty of soap and water
- If skin irritation occurs: Get medical advice/attention
- Take off contaminated clothing and wash before reuse
- IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
- Rinse mouth
- Collect spillage

**Precautionary Statements - Disposal**

- Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

Have the product label with you when calling a poison control center or doctor or going in for treatment. You may also contact 1-877-800-5556 for emergency medical treatment advice.

**Other Information****3. COMPOSITION/INFORMATION ON INGREDIENTS**

Chemical Name	CAS. Number	Weight %
Urea	57-13-6	32.61
Ferrous Sulfate	7720-78-7	16.32

\* The exact percentage (concentration) of composition has been withheld as a trade secret

**4. FIRST AID MEASURES****First aid measures**

<b>General advice</b>	In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).
<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. If symptoms persist, call a physician.
<b>Skin Contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms persist, call a physician.
<b>Inhalation</b>	Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If symptoms persist, call a physician.
<b>Ingestion</b>	Clean mouth with water and drink afterwards plenty of water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. If swallowed, call a poison control center or physician immediately.
<b>Self-protection of the first aider</b>	Use personal protective equipment as required.

**Most important symptoms and effects, both acute and delayed**

**Symptoms** No information available.

**Indication of any immediate medical attention and special treatment needed**

**Note to physicians** Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood

pressure may occur with moist rales, frothy sputum, and high pulse pressure. Treat symptomatically.

## 5. FIRE-FIGHTING MEASURES

### Suitable extinguishing media

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

### Specific hazards arising from the chemical

The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating and toxic gases and vapors. In the event of fire and/or explosion do not breathe fumes.

### Explosion data

**Sensitivity to Mechanical Impact** None.

**Sensitivity to Static Discharge** None.

### Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

#### **Personal precautions**

Use personal protective equipment as required. Avoid contact with eyes and skin. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

### Environmental precautions

#### **Environmental precautions**

Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. See Section 12 for additional ecological information.

### Methods and material for containment and cleaning up

#### **Methods for containment**

Prevent further leakage or spillage if safe to do so.

#### **Methods for cleaning up**

Cover liquid spill with sand, earth or other non-combustible absorbent material. Use personal protective equipment as required. Dam up. Take up mechanically, placing in appropriate containers for disposal. Clean contaminated surface thoroughly. After cleaning, flush away traces with water.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

#### **Advice on safe handling**

Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Wash contaminated clothing before reuse. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product. In case of insufficient ventilation, wear suitable respiratory equipment. Use only with adequate ventilation and in closed systems.

### Conditions for safe storage, including any incompatibilities

#### **Storage Conditions**

Keep out of the reach of children. Keep container tightly closed in a dry and well-ventilated place. Keep in properly labeled containers.

#### **Incompatible materials**

Strong bases. Incompatible with oxidizing agents. Incompatible with strong acids and bases.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

**Exposure Guidelines**

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Ferrous Sulfate 7720-78-7	TWA: 1 mg/m <sup>3</sup> Fe	(vacated) TWA: 1 mg/m <sup>3</sup> Fe	TWA: 1 mg/m <sup>3</sup> Fe

NIOSH IDLH *Immediately Dangerous to Life or Health*

**Other Information**

Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

**Appropriate engineering controls****Engineering Controls**

Local and General Ventilation.

**Individual protection measures, such as personal protective equipment****Eye/face protection**

Tight sealing safety goggles. Face protection shield.

**Skin and body protection**

Wear protective gloves and protective clothing. Wear long-sleeved shirt, long pants, socks and shoes.

**Respiratory protection**

If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

**General Hygiene Considerations**

When using do not eat, drink or smoke. Wash contaminated clothing before reuse. Keep away from food, drink and animal feeding stuffs. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Take off all contaminated clothing and wash it before reuse. Wear suitable gloves and eye/face protection.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

<b>Physical state</b>	Liquid	<b>Odor</b>	No discernible odor
<b>Appearance</b>	Liquid	<b>Odor threshold</b>	No information available
<b>Color</b>	Green		
<b>Property</b>	<b>Values</b>	<b>Remarks • Method</b>	
<b>pH</b>	2.0-2.5		
<b>Melting point/freezing point</b>	-5 °C / 23 °F		
<b>Boiling point / boiling range</b>	121 °C / 212 °F		
<b>Flash point</b>	> 96 °C / > 200 °F		
<b>Evaporation rate</b>	< 1		
<b>Flammability (solid, gas)</b>	No information available		
<b>Flammability Limit in Air</b>			
<b>Upper flammability limit:</b>	No information available		
<b>Lower flammability limit:</b>	No information available		
<b>Vapor pressure</b>	<17 mm Hg		
<b>Vapor density</b>	>1		
<b>Specific Gravity</b>	1.3689		
<b>Water solubility</b>	Soluble in water		
<b>Solubility in other solvents</b>	No information available		
<b>Partition coefficient</b>	No information available		
<b>Autoignition temperature</b>	No information available		
<b>Decomposition temperature</b>	No information available		
<b>Oxidizing properties</b>	No information available		

**Other Information**

Density 11.42 pounds/gallon

## 10. STABILITY AND REACTIVITY

### Reactivity

No data available

### Chemical stability

Stable.

### Possibility of Hazardous Reactions

None under normal processing.

### Hazardous polymerization

Will not occur.

### Conditions to avoid

(Store below 110 degrees F). Exposure to air over prolonged periods. Exposure to air or moisture over prolonged periods.

### Incompatible materials

Strong bases. Incompatible with oxidizing agents. Incompatible with strong acids and bases.

### Hazardous Decomposition Products

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

#### Product Information

**Inhalation** May cause irritation.

**Eye contact** May cause irritation. May cause burns.

**Skin Contact** May cause irritation.

**Ingestion** May cause irritation. May be harmful if swallowed.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Urea 57-13-6	= 8471 mg/kg ( Rat )	-	-
Ferrous Sulfate 7720-78-7	= 319 mg/kg ( Rat )	-	-

### Information on toxicological effects

**Symptoms** No information available.

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Sensitization** No information available.

**Germ cell mutagenicity** No information available.

**Carcinogenicity** No information available.

**Reproductive toxicity** No information available.

**STOT - single exposure** No information available.

**STOT - repeated exposure** No information available.

**Chronic toxicity** Chronic exposure to corrosive fumes/gases may cause erosion of the teeth followed by jaw necrosis. Bronchial irritation with chronic cough and frequent attacks of pneumonia are common. Gastrointestinal disturbances may also be seen. Avoid repeated exposure. Possible risk of irreversible effects. May cause adverse liver effects.

**Target Organ Effects** Eyes, Gastrointestinal tract (GI), Liver, Respiratory system, Skin, Teeth.

**Aspiration hazard** No information available.

**Numerical measures of toxicity - Product Information**

**Unknown Toxicity** 12 % of the mixture consists of ingredient(s) of unknown toxicity

The following values are calculated based on chapter 3.1 of the GHS document

**ATEmix (oral)** 1902 mg/kg

**ATEmix (inhalation-dust/mist)** 2.9 mg/L

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

Toxic to aquatic life

12% of the mixture consists of components(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Urea 57-13-6		16200 - 18300: 96 h Poecilia reticulata mg/L LC50		3910: 48 h Daphnia magna mg/L EC50 Static 10000: 24 h Daphnia magna Straus mg/L EC50
Ferrous Sulfate 7720-78-7		0.56: 96 h Cyprinus carpio mg/L LC50 semi-static 925: 96 h Poecilia reticulata mg/L LC50 static		152: 48 h Daphnia magna mg/L EC50 6.15 - 9.26: 48 h Daphnia magna mg/L EC50 Static

**Persistence and degradability**

No information available.

**Bioaccumulation**

No information available.

**Other adverse effects**

No information available

## 13. DISPOSAL CONSIDERATIONS

**Waste treatment methods****Disposal of wastes**

Disposal should be in accordance with applicable regional, national and local laws and regulations. This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261).

**Contaminated packaging**

Do not reuse container, unless specified by the manufacturer.

This product contains one or more substances that are listed with the State of California as a hazardous waste.

## 14. TRANSPORT INFORMATION

**DOT****Description**

The following guidelines apply for domestic ground transport. If shipping by air or ocean, please contact our Transportation Dept.

FERTILIZERS NOI - NMFC #68140, SUB 6

## 15. REGULATORY INFORMATION

**U.S. EPA Label Information**

EPA Pesticide Registration Number Not applicable

### International Inventories

TSCA	Listed
DSL/NDSL	Listed
EINECS/ELINCS	Listed
ENCS	Not Listed
IECSC	Listed
KECL	Listed
PICCS	Listed
AICS	Listed

### Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

Chemical Name	TSCA	DSL	NDSL	EINECS	ELINCS	ENCS	IECSC	KECL	PICCS	AICS
Urea	X	X		X		X	X	X	X	X
Ferrous Sulfate	X	X		X		X	X	X	X	X

### US Federal Regulations

#### SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

#### SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	Yes
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

#### CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Ferrous Sulfate 7720-78-7	1000 lb			X

#### CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Ferrous Sulfate 7720-78-7	1000 lb		RQ 1000 lb final RQ RQ 454 kg final RQ

### US State Regulations

#### California Proposition 65

This product contains the following Proposition 65 chemicals.

#### U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Ferrous Sulfate 7720-78-7	X	X	X

**International Regulations**

Mexico - Grade Slight risk, Grade 1

Chemical Name	Carcinogenicity	Exposure Limits
Ferrous Sulfate		Mexico: TWA 1 mg/m <sup>3</sup> Mexico: STEL 2 mg/m <sup>3</sup>

**16. OTHER INFORMATION**

<b>NFPA</b>	Health hazards 3	Flammability 1	Instability 0	Physical and Chemical Properties -
<b>HMIS</b>	Health hazards 3	Flammability 1	Physical hazards 0	Personal protection X

**Disclaimer**

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**End of Safety Data Sheet**