SAFETY DATA SHEET
Brexil Fe

SECTION 1: IDENTIFICATION

1.1. Product Identifier used on the label
Trade name: Brexil Fe
1.2. Other means of identification
Trade code: 12334
1.3. Recommended use of the chemical and restrictions on use:
Use recommended: Fertilizer
1.3. Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party;

Produced and packed by:
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19500 Hwy 249, suite 245 - Houston TX 77070
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Competent person responsible for the safety data sheet:
regulatory@valagro.com

1.4. Emergency phone number
Valagro USA Inc
Tel (281) 664 8700 - Fax (281) 664 8701

SECTION 2: HAZARD(S) IDENTIFICATION

2.1. Classification of the chemical in accordance with paragraph (d) of §1910.1200;


Skin irritant cat. 2, Causes skin irritation.


Eye irritant cat. 2A , Causes serious eye irritation.

2.2. Signal word, hazard statement(s), symbol(s) and precautionary statement(s) in accordance with paragraph (f) of §1910.1200;

Symbols:

Warning

Causes skin irritation.
Causes serious eye irritation.

Wash hands thoroughly after handling. Wear protective gloves, safety goggles and face shield.
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 water and soap. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.

First Aid: If irritation occurs and if symptoms persist, call a physician.

2.3. Describe any hazards not otherwise classified that have been identified during the classification process;
None

2.4. Where an ingredient with unknown acute toxicity is used in a mixture at a concentration ≥ 1% and the mixture is not classified based on testing of the mixture as a whole, a statement that X% of the mixture consists of ingredient(s) of unknown acute toxicity is required:
Not required

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Mixtures

3.1 The chemical name and concentration (exact percentage) or concentration ranges of all ingredients which are classified as health hazards in accordance with paragraph (d) of §1910.1200 and (1) Are present above their cut-off/concentration limits; or (2) Present a health risk below the cut-off/concentration limits:

30% - 40% iron (II) sulfate CAS: 7720-78-7, EC: 231-753-5

 Eye irritant cat. 2A , Causes serious eye irritation

 Skin irritant cat. 2, Causes skin irritation.

 Oral acute toxicity cat 4, Harmful if swallowed

SECTION 4: FIRST-AID MEASURES

4.1. Description of necessary measures, subdivided according to the different routes of exposure, i.e., inhalation, skin and eye contact, and ingestion;
In case of skin contact:
Immediately take off all contaminated clothing.

Areas of the body that have - or are only even suspected of having - come into contact with the product must be rinsed immediately with plenty of running water and possibly with soap.
Wash thoroughly the body (shower or bath).
Remove contaminated clothing immediatley and dispose off safely.
After contact with skin, wash immediately with soap and plenty of water.

In case of eyes contact:

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an opthalmologist immediately.
Protect uninjured eye.

In case of Ingestion:

Do not under any circumstances induce vomiting. Rinse mouth with water and if the person is conscious give water to drink . OBTAIN A MEDICAL EXAMINATION IMMEDIATELY.

In case of Inhalation:

Remove casualty to fresh air and keep warm and at rest.

4.2. Most important symptoms/effects, acute and delayed:

No data available for the mixture
Symptoms related to iron sulphate:
Vomiting, diarrhoea, mild lethargy, upper abdominal pain, pallor, and hyperglycemia with more severe clinical findings including cyanosis, stupor, acidosis, haematemesis, shock, and coma (Aisen, 1990).
Corrosion of the gastric mucosa occurs in humans following iron overdose (Hoppe *et al.*, 1955).

4.3. Indication of immediate medical attention and special treatment needed, if necessary.

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).
Treatment:
No data available

SECTION 5. FIRE-FIGHTING MEASURES

5.1. Suitable (and unsuitable) extinguishing media.

Suitable extinguishing media:
Water.
Carbon dioxide (CO2).
Extinguishing media which must not be used for safety reasons:
None in particular.

5.2. Specific hazards arising from the chemical (e.g., nature of any hazardous combustion products).

Do not inhale explosion and combustion gases.
Burning produces smoke containing nitrogen oxides, sulfur oxides, and ammonia

5.3. Special protective equipment and precautions for fire-fighters.

Use suitable breathing apparatus, protective clothing, eye protection and gloves resistant to chemicals according to EN469
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Move undamaged containers from immediate hazard area if it can be done safely.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Wear protective clothes giving a total skin protection, latex gloves and safety glasses.
See protective measures under point 7 and 8.
Ensure adequate ventilation, move people in a safe place.
Avoid dust generation

In case of dust generation use anti-powder mask with P2 (FFP2) filters according to the EN 143.
Avoid any accumulation of electrostatic charge which may create a hazardous condition and cause an ignition.

6.2. Methods and material for containment and cleaning up

Collect the product for example using shovel and broom
Wash with plenty of water and adsorb with organic material or sand collect the product absorbed for example using shovel and broom
Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.
Dilute with water and retain contaminated wash water and dispose in authorized facilities or pick up in clean plastic labeled containers and reuse as fertilizer.
In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Avoid contact with skin and eyes, inhalation of vapours and mists.
Don't use empty container before they have been cleaned.
Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.
Contamined clothing should be changed before entering eating areas.
Do not eat or drink while working.
See also section 8 for recomened protective equipment.

7.2. Conditions for safe storage, including any incompatibilities

Keep in the original package in a cool well-ventilated place, away from direct sunlight and heat sources.
Keep away from food, drink and feed.
Incompatible materials:
Bases, oxidizing and reducing agents.
Instructions as regards storage premises:
Adequately ventilated premises.
Avoid dust generation.
Dusts at sufficient concentrations can form explosive mixtures with air
Avoid any accumulation of electrostatic charge which may create a hazardous condition and cause an ignition.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. OSHA permissible exposure limit (PEL), American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV), and any other exposure limit used or recommended by the chemical manufacturer, importer, or employer preparing the safety data sheet, where available.

No data available for the mixture.
TWA Iron soluble salts (Fe) : 1 mg/m3
American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV): 1 mg/m3 TWA
National Institute for Occupational Safety and Health (NIOSH) Recommended Exposure Limit (REL): 1 mg/m3 TWA
Potential Symptoms: Irritation eyes, skin, mucous membrane; abdominal pain, diarrhea, vomiting; possible liver damage

Affected Organs: Eyes, skin, respiratory system, liver, gastrointestinal tract

8.2 Appropriate engineering controls.
None in particular.
It is recommended that the workers wear appropriate gloves, protective glasses and use a anti-powder mask

8.3. Individual protection measures, such as personal protective equipment
Please observe the usual precautionary measures for handling of chemicals.
The personal protective equipment must be compliant to the regulation UNI –EN in force

Eye protection:
Use close fitting safety goggles according to the standard EN 166, don't use eye lens
Protection for skin:
Use clothing that provides comprehensive protection to the skin, e.g. cotton, rubber, PVC or viton
Protection for hands:
Use protective gloves that provides comprehensive protection, e.g. P.V.C., neoprene or rubber according to EN 374
Respiratory protection:
Use anti-powder mask with P2 (FFP2) filters according to the EN 143.
The powder exposition limit must be respected.
Thermal Hazards:
None Known
Environmental exposure controls:
None

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance:	Brown microgranules
Odour:	N.A.
Odour threshold:	N.A.
pH 1% water solution at 20°C:	3,3
Melting point / freezing point:	N.A.
Initial boiling point and boiling range:	N.A.
Flash point:	N.A.
Evaporation rate:	N.A.
Flammability (Solid/gas):	N.A.
Upper/lower flammability or explosive limits:	N.A.
Vapour pressure:	N.A
Vapour density:	N.A.
Apparent density:	0.65 g/cm3
Solubility in water:	400 g/l at 20°C
Lipid solubility:	N.A.
Partition coefficient (n-octanol/water):	N.A.
Auto-ignition temperature:	N.A.
Decomposition temperature:	N.A.
Viscosity:	N.A.

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity
Stable under normal conditions

The product can release gaseous ammonia if in contact with alkaline substances such as lime

10.2. Chemical stability

Stable under normal conditions of storage and use

10.3. Possibility of hazardous reactions

None Known

See section 10.1

10.4. Conditions to avoid (e.g., static discharge, shock, or vibration);

Avoid high temperatures

Avoid any accumulation of electrostatic charge which may create a hazardous condition and cause an ignition.

10.5. Incompatible materials

Bases, oxidizing and reducing agents.

10.6. Hazardous decomposition products

In case of fire can develop smoke containing nitrogen oxides, sulfur oxides and ammonia

SECTION 11: TOXICOLOGICAL INFORMATION

Description of the various toxicological (health) effects and the available data used to identify those effects, including:

11.1 Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact);

Inhalation:
can be irritating to the respiratory tract.
Skin/eye contact:
Causes skin irritation; Causes serious eye irritation.
Ingestion:
The product in water or in the presence of moisture, causes an acid reaction and in case of ingestion may cause irritation and burns of the mouth, throat and digestive tract.

11.2 Symptoms related to the physical, chemical and toxicological characteristics;

Most important symptoms and possible effects, both acute and delayed based on iron sulfate contained in the mixture:
Eyes and skin:
Symptoms: redness, burning, itching, pain
Inhalation:
Symptoms: difficulty in breathing.
Ingestion:
Acute symptoms are characterized by vomiting, diarrhoea, mild lethargy, upper abdominal pain, pallor, and hyperglycemia with more severe clinical findings including cyanosis, stupor, acidosis, haematemesis, shock, and coma (Aisen, 1990).

11.3 Delayed and immediate effects and also chronic effects from short- and long-term exposure;

See section 11.2

11.4 Numerical measures of toxicity (such as acute toxicity estimates).

Toxicological information of the mixture:

Brexil Fe

a) acute toxicity:

Test: LD50 - Route: Oral - Species: Rat > 2000 mg/kg (OECD 423)

Toxicological information of the main substances found in the mixture:

-Iron sulfate:

a) acute toxicity:

NOAEC in humans for acute respiratory effects would probably be higher than 0.02 mg Fe/m^3 of respirable aerosols for a 2-hour exposure period.

oral
Ferrous sulfate heptahydrate
Test OECD TG 401 and GLP
Rat LD50 mg Fe / kg bw> 400
LD50 mg salt / kg bw> 2000
Ref MHLW, Japan, 2003
Skin
LD50> 2000 mg / kg bw

b) skin corrosion/irritation:

Ferrous sulfate heptahydrate 500 mg of solid applied to skin under semi-occlusion.	Rabbit	*OECD TG 404 and GLP*	Irritant	1	Clouzeau, 1994

c) serious eye damage/irritation:
Solutions of industrial grade ferric chloride and ferric sulfate have a pH of <1. They would therefore be expected to be corrosive, according to EU criteria (Directive 93/21/EEC).

d) respiratory or skin sensitisation:
Not sensitizing to the respiratory system and skin

e) germ cell mutagenicity:
based on available data, the classification criteria are not met

f) carcinogenicity:
based on available data, the classification criteria are not met

g) reproductive toxicity:
Not classified
NOAELs for reproductive and developmental effects ≥1000 mg/kg body weight/day

h) STOT-single exposure:
based on available data, the classification criteria are not met

i) STOT-repeated exposure
based on available data, the classification criteria are not met

j) aspiration hazard:
based on available data, the classification criteria are not met

11.5 Whether the hazardous chemical is listed in the National Toxicology Program (NTP) Report on Carcinogens (latest edition) or has been found to be a potential carcinogen in the International Agency for Research on Cancer (IARC) Monographs (latest edition), or by OSHA:
None

SECTION 12: ECOLOGICAL INFORMATION

12.1. Ecotoxicity (aquatic and terrestrial, where available);

Adopt good working practices, so that the product is not released into the environment.
Based on available data, the product is non toxic for the environment
The release of large amounts may cause a decreasing of the pH value and can have negative effects on aquatic environments

12.2. Persistence and degradability:
No data available for the mixture;
The mixture contain Ligninsulfonate ammonium that is a natural biodegradable product
Not applicable for inorganic salts such as iron sulfate

12.3. Bioaccumulative potential
The product does not contain any bioaccumulative substances

12.4. Mobility in soil
The product is soluble and mobile in both terrestrial and aquatic compartments

12.6. Other adverse effects (such as hazardous to the ozone layer).
None known

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Description of waste residues and information on their safe handling and methods of disposal, Including the disposal of any contaminated packaging:
Product :Recover if possible. In so doing, comply with the local and national regulations currently in force.
Packaging: Dispose according to regulations.

SECTION 14: TRANSPORT INFORMATION

14.1. UN number
Not classified as dangerous in the meaning of transport regulations.

14.2. UN proper shipping name
N.A.

14.3. Transport hazard class(es)
N.A.

14.4. Packing Group
N.A.

14.5 Environmental hazards
IMDG-Marine pollutant: No

14.6. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
N.A.

14.7. Special precautions which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance either within or outside their premises:
N.A.

SECTION 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations specific for the product in question.
Hazard Communication Standard (HCS) Haz Com 2012
OSHA, 29 CFR 1910.1200(g) and Appendix D. United Nations Globally Harmonized System of Classification and Labelling of Chemicals (GHS), third revised edition, United Nations, 2009.
Hazard Communication Standard
United Nations Recommendations on the Transport of Dangerous Goods.
OSHA Permissible Exposure Limit
29 CFR 1926.55 Appendix A
American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value

(TLV)
National Institute for Occupational Safety and Health (NIOSH) Recommended Exposure Limit (REL)
Chemical Abstracts Service (CAS) Registry Number

SECTION 16: OTHER INFORMATION , INCLUDING DATE OF PREPARATION OR LAST REVISION

Date of preparation of the SDS: revision 1.0, date 2014-12-12.
This document was prepared by a competent person who has received appropriate training.
The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality.
It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.
This MSDS cancels and replaces any preceding release.

N.A.	no data available
ADR:	European Agreement concerning the International Carriage of Dangerous Goods by Road.
CAS:	Chemical Abstracts Service (division of the American Chemical Society).
CLP:	Classification, Labeling, Packaging.
DNEL:	Derived No Effect Level.
EINECS:	European Inventory of Existing Commercial Chemical Substances.
GefStoffVO:	Ordinance on Hazardous Substances, Germany.
GHS:	Globally Harmonized System of Classification and Labeling of Chemicals.
IATA:	International Air Transport Association.
IATA-DGR:	Dangerous Goods Regulation by the "International Air Transport Association" (IATA).
ICAO:	International Civil Aviation Organization.
ICAO-TI:	Technical Instructions by the "International Civil Aviation Organization" (ICAO).
IMDG:	International Maritime Code for Dangerous Goods.
INCI:	International Nomenclature of Cosmetic Ingredients.
KSt:	Explosion coefficient.
LC50:	Lethal concentration, for 50 percent of test population.
LD50:	Lethal dose, for 50 percent of test population.
LTE:	Long-term exposure.
PNEC:	Predicted No Effect Concentration.
RID:	Regulation Concerning the International Transport of Dangerous Goods by Rail.
STE:	Short-term exposure.
STEL:	Short Term Exposure limit.
STOT:	Specific Target Organ Toxicity.
TLV:	Threshold Limiting Value.
TWATLV:	Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).
WGK:	German Water Hazard Class.