

Best N-FLEXX 22-4-10 with UFLEXX & 5.8% Iron

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 : Best N-FLEXX 22-4-10 with UFLEXX & 5.8% Iron
Product code : M74390

1.2. Recommended use and restrictions on use

Recommended use : Fertilizer

1.3. Supplier

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	Causes eye irritation
Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation	H335	May cause respiratory irritation

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS-US labelling

Hazard pictograms (GHS-US) :



Signal word (GHS-US) : Warning

Hazard statements (GHS-US) : H320 - Causes eye irritation
H335 - May cause respiratory irritation

Precautionary statements (GHS-US) : P261 - Avoid breathing dust/fume/gas/mist/vapours/spray
P264 - Wash hands, forearms and face thoroughly after handling
P271 - Use only outdoors or in a well-ventilated area
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P312 - Call a poison center/doctor/... if you feel unwell
P337+P313 - If eye irritation persists: Get medical attention
P403+P233 - Store in a well-ventilated place. Keep container tightly closed
P405 - Store locked up
P501 - Dispose of contents/container to ... in accordance with local/regional/national regulations

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

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SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%	GHS-US classification
Monoammonium Phosphate	(CAS No) 7722-76-1		Eye Irrit. 2B, H320 STOT SE 3, H335
Proprietary			Not classified
1-methyl-2-pyrrolidone	(CAS No) 872-50-4		Flam. Liq. 4, H227 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335
N-(n-butyl)-thiophosphonic triamide	(CAS No) 94317-64-3		Eye Irrit. 2A, H319 Skin Sens. 1B, H317 Repr. 2, H361 STOT SE 3, H335
iron(II)sulfate	(CAS No) 7720-78-7		Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315

Full text of hazard classes and 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 : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
- 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 (acute and delayed)

- Potential adverse human health effects and symptoms : Based on available data, the classification criteria are not met.
- Symptoms/injuries after inhalation : May cause respiratory irritation.
- Symptoms/injuries after eye contact : Causes eye irritation.

4.3. Immediate medical attention and special treatment, if necessary

No additional information available

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) 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. Specific hazards arising from the chemical

No additional information available

5.3. Special protective equipment and precautions for fire-fighters

- 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.

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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.

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. Avoid breathing dust/fume/gas/mist/vapours/spray. Use only outdoors or in a well-ventilated area.

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 tightly closed.

Incompatible products : Strong bases. Strong acids.

Incompatible materials : Sources of ignition. Direct sunlight.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Monoammonium Phosphate (7722-76-1)

Not applicable

1-methyl-2-pyrrolidone (872-50-4)

Not applicable

N-(n-butyl)-thiophosphonic triamide (94317-64-3)

Not applicable

Proprietary

Not applicable

iron(II)sulfate (7720-78-7)

ACGIH	ACGIH TWA (mg/m ³)	1 mg/m ³
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8.2. Appropriate engineering controls

No additional information available

8.3. Individual protection measures/Personal protective equipment

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.

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Granule.
Colour	: Multi-colored
Odour	: There may be no odour warning properties, odour is subjective and inadequate to warn of overexposure. Mixture contains one or more component(s) which have the following odour(s): Odourless Mild odour Petroleum-like odour Amine-like odour Smell of fish In moist air: Ammonia odour
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)	: Non-flammable Non flammable.
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Solubility	: Soluble.
Log Pow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive limits	: No data available
Explosive properties	: No data available
Oxidising properties	: 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

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Monoammonium Phosphate (7722-76-1)	
LD50 oral rat	5750 mg/kg (Rat)
LD50 dermal rat	> mg/kg
LD50 dermal rabbit	> 7940 mg/kg (Rabbit)
ATE US (oral)	5750 mg/kg bodyweight

1-methyl-2-pyrrolidone (872-50-4)	
LD50 oral rat	3914 mg/kg (Rat; Equivalent or similar to OECD 401; Literature study; 4150 mg/kg bodyweight; Rat; Experimental value)
LD50 dermal rat	7000 mg/kg (Rat; Literature study)
LD50 dermal rabbit	8000 mg/kg (Rabbit; Literature study; Equivalent or similar to OECD 402; >5000 mg/kg bodyweight; Rabbit; Experimental value)
LC50 inhalation rat (mg/l)	> 5.1 mg/l/4h (Rat; Experimental value)
ATE US (oral)	3914 mg/kg bodyweight
ATE US (dermal)	7000 mg/kg bodyweight

N-(n-butyl)-thiophosphonic triamide (94317-64-3)	
LD50 oral rat	> 2000 mg/kg
LD50 dermal rat	> 2000 mg/kg

iron(II)sulfate (7720-78-7)	
LD50 oral rat	319 mg/kg (Rat; Literature)
ATE US (oral)	319 mg/kg bodyweight

Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Causes eye irritation.
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: May cause respiratory irritation.
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 inhalation	: May cause respiratory irritation.
Symptoms/injuries after eye contact	: Causes eye irritation.

SECTION 12: Ecological information

12.1. Toxicity

Monoammonium Phosphate (7722-76-1)	
LC50 fish 1	155 ppm (96 h; Pimephales promelas)

1-methyl-2-pyrrolidone (872-50-4)	
LC50 fish 1	3048 mg/l (96 h; Salmo gairdneri (Oncorhynchus mykiss); Cool water)
EC50 Daphnia 1	4897 mg/l (48 h; Daphnia magna)
LC50 fish 2	832 mg/l (96 h; Lepomis macrochirus; Warm water)
EC50 Daphnia 2	4655 mg/l (Gammarus sp.)
Threshold limit algae 1	> 500 mg/l (Scenedesmus subspicatus)
Threshold limit algae 2	600.5 mg/l (72 h; Desmodesmus subspicatus; Growth rate)

iron(II)sulfate (7720-78-7)	
LC50 fish 1	925 mg/l (96 h; Poecilia reticulata; Heptahydrate)
EC50 Daphnia 1	7.2 mg/l (48 h; Daphnia magna; Metal ion)

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iron(II)sulfate (7720-78-7)	
LC50 fish 2	100 mg/l (96 h; Oryzias latipes; GLP)
EC50 Daphnia 2	152 mg/l (48 h; Daphnia magna; Heptahydrate)
Threshold limit algae 1	130 mg/l (72 h; Pseudokirchneriella subcapitata; Heptahydrate)
Threshold limit algae 2	3.2 mg/l (72 h; Pseudokirchneriella subcapitata; Heptahydrate)

12.2. Persistence and degradability

Best N-FLEXX 22-4-10 with UFLEXX & 5.8% Iron	
Persistence and degradability	Not established.
Monoammonium Phosphate (7722-76-1)	
Persistence and degradability	Biodegradability in water: no data available. Not established.
1-methyl-2-pyrrolidone (872-50-4)	
Persistence and degradability	Readily biodegradable in water. Inherently biodegradable. Biodegradable in the soil. Photodegradation in the air. Not established.
Biochemical oxygen demand (BOD)	1.07 g O ₂ /g substance
Chemical oxygen demand (COD)	1.56 g O ₂ /g substance
ThOD	1.9 g O ₂ /g substance
BOD (% of ThOD)	0.56 % ThOD
N-(n-butyl)-thiophosphonic triamide (94317-64-3)	
Persistence and degradability	Not established.
Proprietary	
Persistence and degradability	Not established.
iron(II)sulfate (7720-78-7)	
Persistence and degradability	Biodegradability in water: no data available. No (test)data on mobility of the substance available. Not established.

12.3. Bioaccumulative potential

Best N-FLEXX 22-4-10 with UFLEXX & 5.8% Iron	
Bioaccumulative potential	Not established.
Monoammonium Phosphate (7722-76-1)	
Bioaccumulative potential	Not bioaccumulative. Not established.
1-methyl-2-pyrrolidone (872-50-4)	
Log Pow	-0.73 - -0.46 (Experimental value)
Bioaccumulative potential	Not bioaccumulative. Not established.
N-(n-butyl)-thiophosphonic triamide (94317-64-3)	
Bioaccumulative potential	Not established.
Proprietary	
Bioaccumulative potential	Not established.
iron(II)sulfate (7720-78-7)	
BCF fish 1	2 - 20 (28 days; Cyprinus carpio; Heptahydrate)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500). Not established.

12.4. Mobility in soil

1-methyl-2-pyrrolidone (872-50-4)	
Surface tension	0.407 N/m

12.5. Other adverse effects

Effect on the global warming : No known effects from this product.
GWPmix comment : No known effects from this product.

Other information : Avoid release to the environment.

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SECTION 13: Disposal considerations

13.1. Disposal methods

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.
Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Other information : No supplementary information available.

TDG

Transport by sea

Air transport

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	%
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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.

1-methyl-2-pyrrolidone	CAS No 872-50-4	%
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N-(n-butyl)-thiophosphonic triamide (94317-64-3)

EPA Labeling Requirements	E - E - indicates a substance that is the subject of a Section 5(e) Consent Order under TSCA. P - P - indicates a commenced PMN substance. S - S - indicates a substance that is identified in a proposed or final Significant New Uses Rule.
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iron(II)sulfate (7720-78-7)

CERCLA RQ	1000 lb
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15.2. International regulations

CANADA

No additional information available

N-(n-butyl)-thiophosphonic triamide (94317-64-3)

Listed on the Canadian DSL (Domestic Substances List)

Proprietary

Not listed on the Canadian DSL (Domestic Substances List)/NDSL (Non-Domestic Substances List)

iron(II)sulfate (7720-78-7)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

No additional information available

15.3. US State regulations

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1-methyl-2-pyrrolidone (872-50-4)					
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	Non-significant risk level (NSRL)	Maximum Allowable Dose Limit (MADL)
No	Yes	No	No		

1-methyl-2-pyrrolidone (872-50-4)

U.S. - New Jersey - Right to Know Hazardous Substance List

iron(II)sulfate (7720-78-7)

U.S. - New Jersey - Right to Know Hazardous Substance List

SECTION 16: Other information

Other information : None.

Full text of H-statements:

H227	Combustible liquid
H302	Harmful if swallowed
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H320	Causes eye irritation
H335	May cause respiratory irritation
H361	Suspected of damaging fertility or the unborn child

SDS US (GHS HazCom 2012)

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