

SECTION 1: Identification

1.1. Identification

Product form : Mixture
 Product name : 16-4-4
 Product code : 80596

1.2. Recommended use and restrictions on use

Use of the substance/mixture : 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

Skin corrosion/irritation Category 1A H314 Causes severe skin burns and eye damage
 Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) : Danger

Hazard statements (GHS US) : H314 - Causes severe skin burns and eye damage

Precautionary statements (GHS US) :

- P260 - Do not breathe dust/fume/gas/mist/vapors/spray.
- P264 - Wash hands, forearms and face thoroughly after handling.
- P280 - Wear protective gloves/protective clothing/eye protection/face protection.
- P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting
- P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
- 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
- P310 - Immediately call a poison center or doctor
- P321 - Specific treatment (see supplemental first aid instruction on this label)
- P363 - Wash contaminated clothing before reuse.
- P405 - Store locked up.
- P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

16-4-4

Safety Data Sheet

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

3.2. Mixtures

Name	Product identifier	%	GHS US classification
sulfuric acid	(CAS-No.) 7664-93-9	15-25	Skin Corr. 1A, H314
Anhydrous Ammonia	(CAS-No.) 7664-41-7	1-10	Acute Tox. 3 (Inhalation:gas), H331 Skin Corr. 1A, H314 Aquatic Acute 1, H400
Iron Oxyulfate		1-10	Eye Irrit. 2B, H320
phosphoric acid	(CAS-No.) 7664-38-2	1-10	Met. Corr. 1, H290 Skin Corr. 1B, H314

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 after inhalation : Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact : Wash skin with plenty of water.
First-aid measures after eye contact : Rinse eyes with water as a precaution.
First-aid measures after ingestion : Call a poison center/doctor/physician if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

- Suitable extinguishing media : Water spray. Dry powder. Foam.

5.2. Specific hazards arising from the chemical

- Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Special protective equipment and precautions for fire-fighters

- Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

- Emergency procedures : Ventilate spillage area.

6.1.2. For emergency responders

- Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : Mechanically recover the product.
Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment.
Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

16-4-4

Safety Data Sheet

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

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep cool.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

16-4-4	
No additional information available	
sulfuric acid (7664-93-9)	
No additional information available	
phosphoric acid (7664-38-2)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH TWA (mg/m ³)	1 mg/m ³
ACGIH STEL (mg/m ³)	3 mg/m ³
Anhydrous Ammonia (7664-41-7)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH TWA (ppm)	25 ppm
ACGIH STEL (ppm)	25 ppm
Iron Oxysulfate	
No additional information available	

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.
Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:

Protective gloves

Eye protection:

Safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

Personal protective equipment symbol(s):



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Solid
Color : Mixture contains one or more component(s) which have the following colour(s):
Pure substance: colourless Unpurified: yellow to brown Colorless Colourless Colourless-white
Unpurified: grey-brown Colourless to white
Odor : 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:
Almost odourless Odourless Irritating/pungent odour No data available on odour

16-4-4

Safety Data Sheet

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

Odor threshold	: No data available
pH	: No data available
Melting point	: No data available
Freezing point	: Not applicable
Boiling point	: No data available
Flash point	: Not applicable
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Non flammable.
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Solubility	: No data available
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: Not applicable
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: Not applicable
Explosive properties	: No data available
Oxidizing properties	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

phosphoric acid (7664-38-2)

LD50 oral rat	(Rat)
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Anhydrous Ammonia (7664-41-7)

LD50 oral rat	350 mg/kg
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Skin corrosion/irritation	: Causes severe skin burns.
Serious eye damage/irritation	: Assumed to cause serious eye damage
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified

16-4-4

Safety Data Sheet

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

Carcinogenicity : Not classified

sulfuric acid (7664-93-9)	
IARC group	1 - Carcinogenic to humans
National Toxicology Program (NTP) Status	Known Human Carcinogens

Reproductive toxicity : Not classified

Specific target organ toxicity – single exposure : Not classified

Specific target organ toxicity – repeated exposure : Not classified

Aspiration hazard : Not classified

Viscosity, kinematic : No data available

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

sulfuric acid (7664-93-9)	
LC50 fish 1	42 mg/l (96 h; <i>Gambusia affinis</i>)
EC50 Daphnia 1	29 mg/l (24 h; <i>Daphnia magna</i>)
LC50 fish 2	49 mg/l (48 h; <i>Lepomis macrochirus</i>)
TLM fish 1	42 mg/l (96 h; <i>Gambusia affinis</i>)
Threshold limit other aquatic organisms 1	6900 mg/l (24 h; <i>Pseudomonas fluorescens</i>)

phosphoric acid (7664-38-2)	
LC50 fish 1	138 mg/l (96 h; Pisces; Pure substance)
LC50 other aquatic organisms 1	240 mg/l (96 h; Protozoa; Pure substance)
LC50 fish 2	100 – 1000 mg/l (Pisces; Pure substance)
LC50 other aquatic organisms 2	100 – 1000 mg/l (Pure substance)
TLM fish 1	138 ppm (24 h; <i>Gambusia affinis</i> ; Pure substance)
Threshold limit other aquatic organisms 1	240 mg/l (96 h; Protozoa; Pure substance)
Threshold limit other aquatic organisms 2	100 - 1000, Pure substance

Anhydrous Ammonia (7664-41-7)	
LC50 fish 1	0.75 – 3.4 mg/l (96 h; <i>Pimephales promelas</i> ; Ammonium ions)
LC50 other aquatic organisms 1	1 – 10 mg/l (96 h)
LC50 fish 2	0.52 mg/l 96 h; <i>Salmo gairdneri</i> (<i>Oncorhynchus mykiss</i>)
TLM fish 1	0.2 - 5, Pisces; Nocivity test
Threshold limit other aquatic organisms 1	1 - 10, 96 h

12.2. Persistence and degradability

sulfuric acid (7664-93-9)	
Persistence and degradability	Biodegradability: not applicable. No (test) data on mobility of the components available. Not established.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

phosphoric acid (7664-38-2)	
Persistence and degradability	Biodegradability: not applicable. No (test) data on mobility of the components available. Not established.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable

16-4-4

Safety Data Sheet

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

phosphoric acid (7664-38-2)	
BOD (% of ThOD)	Not applicable
Anhydrous Ammonia (7664-41-7)	
Persistence and degradability	Readily biodegradable in water. Ozonation in water. Biodegradable in the soil. No (test) data on mobility of the components available. Ozonation in the air. Not established.
Iron Oxysulfate	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

sulfuric acid (7664-93-9)	
Partition coefficient n-octanol/water (Log Pow)	-2.2 (Estimated value)
Bioaccumulative potential	Bioaccumulation: not applicable. Not established.
phosphoric acid (7664-38-2)	
Partition coefficient n-octanol/water (Log Pow)	-0.77 (Estimated value)
Bioaccumulative potential	Bioaccumulation: not applicable. Not established.
Anhydrous Ammonia (7664-41-7)	
Partition coefficient n-octanol/water (Log Pow)	-1.14
Bioaccumulative potential	Bioaccumulation: not applicable. Not established.
Iron Oxysulfate	
Bioaccumulative potential	Not established.

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Not applicable

Transportation of Dangerous Goods

Not applicable

Transport by sea

Not applicable

Air transport

Not applicable

16-4-4

Safety Data Sheet

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

SECTION 15: Regulatory information

15.1. US Federal regulations

16-4-4

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:

Iron Oxysulfate	CAS-No.	1-10%
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.		
sulfuric acid	CAS-No. 7664-93-9	15-25%
Anhydrous Ammonia	CAS-No. 7664-41-7	1-10%

sulfuric acid (7664-93-9)

CERCLA RQ	1000 lb
RQ (Reportable quantity, section 304 of EPA's List of Lists)	1000 lb
SARA Section 302 Threshold Planning Quantity (TPQ)	1000 lb

phosphoric acid (7664-38-2)

CERCLA RQ	5000 lb
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Anhydrous Ammonia (7664-41-7)

CERCLA RQ	See ammonium hydroxide
RQ (Reportable quantity, section 304 of EPA's List of Lists)	100 lb
SARA Section 302 Threshold Planning Quantity (TPQ)	500 lb

15.2. International regulations

CANADA

sulfuric acid (7664-93-9)

Listed on the Canadian DSL (Domestic Substances List)

phosphoric acid (7664-38-2)

Listed on the Canadian DSL (Domestic Substances List)

Anhydrous Ammonia (7664-41-7)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

sulfuric acid (7664-93-9)

Listed as carcinogen on NTP (National Toxicology Program)

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

Component	State or local regulations
sulfuric acid(7664-93-9)	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
phosphoric acid(7664-38-2)	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
Anhydrous Ammonia(7664-41-7)	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

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

16-4-4

Safety Data Sheet

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

Full text of H-phrases:

H290	May be corrosive to metals
H314	Causes severe skin burns and eye damage
H320	Causes eye irritation
H331	Toxic if inhaled
H400	Very toxic to aquatic life

SDS US (GHS HazCom 2012)

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