PHT Nutrient Buffer 0-8-0 Plus, Zinc

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 : PHT Nutrient Buffer 0-8-0 Plus, Zinc

Product code : M77038

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)

Met. Corr. 1 H290
Skin Corr. 1A H314

Full text of H-phrases: see section 16

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US) :

GHS05

Signal word (GHS-US) : Danger

Hazard statements (GHS-US) : H290 - May be corrosive to metals
H314 - Causes severe skin burns and eye damage

Precautionary statements (GHS-US) : P234 - Keep only in original container
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P264 - Wash ... 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/doctor/…
P321 - Specific treatment (see ... on this label)
P363 - Wash contaminated clothing before reuse
P390 - Absorb spillage to prevent material damage
P405 - Store locked up
P406 - Store in corrosive resistant/… container with a resistant inner liner
P501 - Dispose of contents/container to ...

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)
Water	(CAS No) 7732-18-5		Not classified
iron(II) sulfate, heptahydrate	(CAS No) 7782-63-0		Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315
phosphoric acid	(CAS No) 7664-38-2		Met. Corr. 1, H290 Skin Corr. 1B, H314
zinc sulfate	(CAS No) 7733-02-0		Acute Tox. 4 (Oral), H302 Eye Dam. 1, H318
sodium dodecylbenzenesulfonate	(CAS No) 25155-30-0		Acute Tox. 4 (Oral), H302
dodecylbenzenesulphonic acid	(CAS No) 27176-87-0		Acute Tox. 4 (Oral), H302 Skin Corr. 1A, H314
sodium sulfate, anhydrous	(CAS No) 7757-82-6		Not classified

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.

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

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

Additional hazards when processed : KEEP PRODUCT IN ORIGINAL CONTAINER. DO NOT PUT CONCENTRATED OR DILUTED PRODUCT INTO FOOD OR DRINK CONTAINERS. DO NOT STORE AT TEMPERATURES BELOW 32°F. AVOID PROLONGED STORAGE AT TEMPERATURES BELOW 40°F SINCE CRYSTALS MAY FORM WHICH ARE DIFFICULT TO DISSOLVE.

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.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

phosphoric acid (7664-38-2)		
USA ACGIH	ACGIH TWA (mg/m³)	1 mg/m³
USA ACGIH	ACGIH STEL (mg/m³)	3 mg/m³

iron(II) sulfate, heptahydrate (7782-63-0)		
USA ACGIH	ACGIH TWA (mg/m³)	1 mg/m³

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

Appearance : Olive colored liquid.

Color : Olive

Odor : characteristic

Odor threshold : No data available

pH : 0.68

Relative evaporation rate (butyl acetate=1) : No data available

Melting point : No data available

Freezing point : No data available

Boiling point : No data available

Flash point : No data available

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
Solubility	:	Water: Solubility in water of component(s) of the mixture : • : • : > 54 g/100ml • : 42 g/100ml • : 25 g/100ml • : 44.45 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

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

phosphoric acid (7664-38-2)	
LD50 oral rat	4400 mg/kg (Rat)
ATE US (oral)	4400.00000000 mg/kg body weight

zinc sulfate (7733-02-0)	
LD50 oral rat	1000 - 2000 mg/kg (Rat)
ATE US (oral)	1000.00000000 mg/kg body weight

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

sodium dodecylbenzenesulfonate (25155-30-0)	
LD50 oral rat	438 mg/kg (Rat)
ATE US (oral)	438.00000000 mg/kg body weight

sodium sulfate, anhydrous (7757-82-6)	
LD50 oral rat	> 10000 mg/kg (Rat; OECD 423: Acute Oral Toxicity – Acute Toxic Class Method; Literature study; > 2000 mg/kg bodyweight; Rat; Experimental value)

dodecylbenzenesulphonic acid (27176-87-0)	
LD50 oral rat	650 mg/kg (Rat; Literature study)
ATE US (oral)	650.00000000 mg/kg body weight

Skin corrosion/irritation	:	Causes severe skin burns and eye damage. pH: 0.68
Serious eye damage/irritation	:	Not classified pH: 0.68
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

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; Gambusia affinis; 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

zinc sulfate (7733-02-0)	
LC50 fish 1	1.7 mg/l (96 h; Poecilia reticulata)
EC50 Daphnia 1	1 mg/l (24 h; Daphnia magna)
LC50 fish 2	2.4 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)
EC50 Daphnia 2	0.56 mg/l (48 h; Daphnia magna)
Threshold limit algae 1	136 µg/l (72 h; Selenastrum capricornutum; Growth rate)
Threshold limit algae 2	24 µg/l (3 days; Selenastrum capricornutum; Growth rate)

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

sodium dodecylbenzenesulfonate (25155-30-0)	
LC50 fish 1	0.99 mg/l (96 h; Pisces)
EC50 Daphnia 1	2.19 mg/l (96 h; Daphnia magna)
LC50 fish 2	6.9 mg/l (96 h; Rita rita)
Threshold limit algae 1	0.9 mg/l (96 h; Algae)

sodium sulfate, anhydrous (7757-82-6)	
LC50 fish 1	13500 mg/l (96 h; Pimephales promelas)
EC50 Daphnia 1	2564 mg/l (48 h; Daphnia magna)
LC50 fish 2	3040 mg/l (96 h; Lepomis macrochirus)
EC50 Daphnia 2	880 mg/l (96 h; Amphipoda)
TLM fish 1	16500 mg/l (96 h; Gambusia affinis)

sodium sulfate, anhydrous (7757-82-6)	
TLM fish 2	13500 mg/l (96 h; Lepomis macrochirus)
Threshold limit algae 1	4 mg/l (360 h; Chlorella sp.)

dodecylbenzenesulphonic acid (27176-87-0)	
LC50 fish 1	3.2 - 5.6 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)
EC50 Daphnia 1	1 - 10 mg/l (48 h; Daphnia magna; GLP)
LC50 fish 2	3.5 - 10 mg/l (96 h; Brachydanio rerio)
EC50 Daphnia 2	5.88 mg/l (48 h; Daphnia magna)
TLM fish 1	4.2 - 5.6,96 h; Lepomis macrochirus; Soft water
TLM fish 2	4.2 - 5.6,96 h; Pimephales promelas; Soft water
Threshold limit algae 1	29 mg/l (96 h; Selenastrum capricornutum)
Threshold limit algae 2	127.9 mg/l (72 h; Scenedesmus subspicatus; GLP)

12.2. Persistence and degradability

PHT Nutrient Buffer 0-8-0 Plus, Zinc	
Persistence and degradability	Not established.

Water (7732-18-5)	
Persistence and degradability	Not established.

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
BOD (% of ThOD)	Not applicable

zinc sulfate (7733-02-0)	
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.

sodium dodecylbenzenesulfonate (25155-30-0)	
Persistence and degradability	Readily biodegradable in water.

sodium sulfate, anhydrous (7757-82-6)	
Persistence and degradability	Biodegradability: not applicable. Biodegradability in soil: not applicable. No (test)data on mobility of the substance available.
ThOD	Not applicable (inorganic)

dodecylbenzenesulphonic acid (27176-87-0)	
Persistence and degradability	Readily biodegradable in water. Low potential for adsorption in soil.
Chemical oxygen demand (COD)	2.41 g O_2 /g substance

12.3. Bioaccumulative potential

PHT Nutrient Buffer 0-8-0 Plus, Zinc	
Bioaccumulative potential	Not established.

Water (7732-18-5)	
Bioaccumulative potential	Not established.

phosphoric acid (7664-38-2)	
Log Pow	-0.77 (Estimated value)
Bioaccumulative potential	Bioaccumulation: not applicable. Not established.

zinc sulfate (7733-02-0)	
BCF fish 1	59 - 242 (Cyprinus carpio; Test duration: 8 weeks)
Bioaccumulative potential	Bioaccumable. Not established.

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

sodium dodecylbenzenesulfonate (25155-30-0)	
BCF fish 1	286 (Lepomis macrochirus)
BCF fish 2	130 (Leuciscus idus)
Log Pow	0.45 - 1.96
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

sodium sulfate, anhydrous (7757-82-6)	
BCF other aquatic organisms 1	0.5
Log Pow	-4.38 (Calculated; US EPA)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

dodecylbenzenesulphonic acid (27176-87-0)	
BCF fish 1	108 - 551 (Pisces)
BCF fish 2	130 (72 h; Leuciscus idus)
BCF other aquatic organisms 1	140 (120 h; Bacteria)
BCF other aquatic organisms 2	60 (24 h; Chlorophyta)
Log Pow	1.96
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

12.4. Mobility in soil

sodium sulfate, anhydrous (7757-82-6)	
Surface tension	0.071 N/m (20 °C; 1.005 g/l)

dodecylbenzenesulphonic acid (27176-87-0)	
Surface tension	35 N/m (25 °C; 800 mg/l)

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 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

Transport document description : UN1805 Phosphoric acid solution, 8, III

UN-No.(DOT) : 1805

DOT NA no. : UN1805

DOT Proper Shipping Name : Phosphoric acid solution

Department of Transportation (DOT) Hazard Classes : 8 - Class 8 - Corrosive material 49 CFR 173.136

Hazard labels (DOT) : 8 - Corrosive

Packing group (DOT) : III - Minor Danger

DOT Special Provisions (49 CFR 172.102)	:	A7 - Steel packaging must be corrosion-resistant or have protection against corrosion. IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672). N34 - Aluminum construction materials are not authorized for any part of a packaging which is normally in contact with the hazardous material. T4 - 2.65 178.274(d)(2) Normal..... 178.275(d)(3) TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = 97 / 1 + a (tr - tf) Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.
DOT Packaging Exceptions (49 CFR 173.xxx)	:	154
DOT Packaging Non Bulk (49 CFR 173.xxx)	:	203
DOT Packaging Bulk (49 CFR 173.xxx)	:	241
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	:	5 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	:	60 L
DOT Vessel Stowage Location	:	A - The material may be stowed ‘‘on deck’’ or ‘‘under deck’’ on a cargo vessel and on a passenger vessel.

Additional information

Other information : No supplementary information available.

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:

iron(II) sulfate, heptahydrate	CAS No 7782-63-0	14.20%

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.

phosphoric acid (7664-38-2)	
Not listed on SARA Section 313 (Specific toxic chemical listings)	
RQ (Reportable quantity, section 304 of EPA's List of Lists) :	5000 lb

zinc sulfate (7733-02-0)	
Listed on United States SARA Section 313	
RQ (Reportable quantity, section 304 of EPA's List of Lists) :	1000 lb

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

sodium dodecylbenzenesulfonate (25155-30-0)	
Not listed on SARA Section 313 (Specific toxic chemical listings)	
RQ (Reportable quantity, section 304 of EPA's List of Lists) :	1000 lb

dodecylbenzenesulphonic acid (27176-87-0)	
Not listed on SARA Section 313 (Specific toxic chemical listings)	
RQ (Reportable quantity, section 304 of EPA's List of Lists) :	1000 lb

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

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

zinc sulfate (7733-02-0)
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

iron(II) sulfate, heptahydrate (7782-63-0)
U.S. - Pennsylvania - RTK (Right to Know) List

sodium dodecylbenzenesulfonate (25155-30-0)
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

dodecylbenzenesulphonic acid (27176-87-0)
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

:

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 Dam. 1	Serious eye damage/eye irritation Category 1
Met. Corr. 1	Corrosive to metals Category 1

Skin Corr. 1A	Skin corrosion/irritation Category 1A
Skin Corr. 1B	Skin corrosion/irritation Category 1B
Skin Irrit. 2	Skin corrosion/irritation Category 2
H290	May be corrosive to metals
H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H318	Causes serious eye damage

SDS US (GHS HazCom 2012)

Disclaimer: This information relates to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is to the best of our knowledge and belief, accurate and reliable as of the date compiled. However, no representation, warranty or guarantee is made as to its accuracy, reliability or completeness. NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, IS MADE CONCERNING THE INFORMATION HEREIN PROVIDED. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his own particular use. We do not accept liability for any loss or damage that may occur from the use of this information nor do we offer warranty against patent infringement.