

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Identification

Product form : Mixture
Product Name : **Ionic Grow**
Ionic Bloom
Ionic Grow for Soil
Ionic Bloom for Soil
Ionic PK Boost
Type of Product : Fertilizer
Product Group : Trade product

1.2. Relevant identified uses of the substance or mixture and uses advised against

Main use category : Consumer use, professional use
Restrictions on use : Not applicable

1.3. Details of the supplier of the Safety Data Sheet

Manufacturer:

Hydrodynamics International
5711 Enterprise Drive
MI 48911 Lansing - USA
T (517) 887-2007 - F (517) 887-2008
info@hydrodynamicsintl.com - www.hydrodynamicsintl.com

1.4. Emergency telephone number

Emergency number : CHEMTREC USA and Canada: 1-800-424 9300 - 24 hours

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS US classification

Not classified

2.2. GHS Label elements, including precautionary statements

GHS US labeling

No label elements required.

2.3. Other hazards which do not result in classification

Other hazards which do not result in classification : None under normal conditions.

Bioaccumulation is not expected to occur.

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

Ionic Nutrients

Safety Data Sheet

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

3.2. Mixtures

Comments : Non hazardous mixture.

Name	Product identifier	%	GHS US classification
Water	CAS-No.: 7732-18-5 EC-No: 231-791-2	>70%	Not classified

Comments : Contains no other components which will influence the classification of the product.

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general	: If you feel unwell, seek medical advice (show the label where possible). First aid personnel should wear appropriate protective equipment during any rescue.
First-aid measures after inhalation	: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Give oxygen or artificial respiration if necessary. Get medical advice/attention if you feel unwell.
First-aid measures after skin contact	: Take off immediately all contaminated clothing and wash it before reuse. Rinse skin with water/shower.
First-aid measures after eye contact	: 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.
First-aid measures after ingestion	: Rinse mouth. Get medical advice/attention if you feel unwell.

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/effects after inhalation	: Inhalation of liquid or overexposure to vapors may cause coughing.
Symptoms/effects after skin contact	: None under normal conditions.
Symptoms/effects after eye contact	: May cause eye irritation.
Symptoms/effects after ingestion	: Ingestion may cause nausea and vomiting.

4.3. Immediate medical attention and special treatment needed

Treat symptomatically. Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	: Use extinguishing agent suitable for surrounding fire. Dry chemical, CO ₂ , water spray or regular foam.
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5.2. Specific hazards arising from the substance or mixture

Fire hazard	: Not flammable.
Explosion hazard	: No direct explosion hazard.
Hazardous decomposition products in case of fire	: Combustion products may include the following: carbon oxides (CO, CO ₂) (carbon monoxide, carbon dioxide) nitrogen oxides (NO, NO ₂ etc.).

5.3. Advice for firefighters

Firefighting instructions	: Do not allow run-off from fire-fighting to enter drains or watercourses.
Protection during firefighting	: Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Ionic Nutrients

Safety Data Sheet

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

General measures : Keep out of reach of children. Do not handle until all safety precautions have been read and understood.

6.1.1. For non-emergency personnel

Protective equipment : Concerning personal protective equipment to use, see Section 8.
Emergency procedures : Avoid contact with eyes. Evacuate area. Ventilate area.

6.1.2. For emergency responders

Protective equipment : Concerning personal protective equipment to use, see Section 8.
Emergency procedures : Avoid contact with eyes. Evacuate unnecessary personnel. Ventilate area.

6.2. Environmental precautions

Avoid release to the environment. Prevent entry to sewers and public waters.

6.3. Methods and material for containment and cleaning up

For containment : Stop leak without risk if possible. Cover spill with non combustible material, e.g.: sand, earth, vermiculite. For a large spillage, contain the spillage by bunding.
Methods for cleaning up : Take up liquid spill into absorbent material. Shovel or sweep up and put in a closed container for disposal. Clean contaminated surfaces with an excess of water.
Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

SECTION 8. SECTION 11. SECTION 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Not expected to present a significant hazard under anticipated conditions of normal use.
Precautions for safe handling : Avoid contact with eyes. Wear eye protection.
Hygiene measures : Take off immediately all contaminated clothing and wash it before reuse. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Keep out of reach of children.
Storage conditions : Keep only in original container. Keep cool. Protect from sunlight. Protect from frost.
Incompatible products : Strong bases.
Storage temperature : 6 – 30 °C

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Mixture

OSHA permissible exposure limit (PEL) : No data available
ACGIH Threshold Limit Value (TLV) : No data available

Ionic Nutrients

Safety Data Sheet

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

8.2. Exposure controls

Appropriate engineering controls	: Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure.
Environmental exposure controls	: Avoid release to the environment.

8.3. Personal protective equipment

Personal protective equipment:

Wear eye or face protection. Always wash hands after handling the product. Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure.

Materials for protective clothing:

Not required for normal conditions of use

Hand protection:

Protective gloves recommended against minor risks if a risk assessment indicates this is necessary.
Replace gloves in case of any sign of damage. Use gloves in accordance with manufacturer's use limitations and OSHA standard 1910.138 (29CFR).
Recommended material: PVC, nitrile.
Breakthrough time: >8 hours
Minimum thickness: 0.35 mm

Eye protection:

Use safety glasses with side shields if there is a risk of splashing. Use in accordance with manufacturer's use limitations and OSHA standard 1910.138 (29CFR).

Skin and body protection:

Not required for normal conditions of use.

Respiratory protection:

No special respiratory protection equipment is recommended under normal conditions of use with adequate ventilation.

Personal protective equipment symbol(s):



Thermal hazard protection:

Not required for normal conditions of use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Clear to slightly hazy liquid
Color	: Ionic Grow and Bloom: pale yellow : Ionic Grow and Bloom for Soil: dark brown : Ionic PK Boost: dark yellow/orange
Odor	: Faint specific odor
Odor threshold	: Not applicable as this product has a barely detectable odor
pH	: 3 – 7
Melting point	: Not applicable (aqueous liquid)
Freezing point	: ≈ 0 °C

Ionic Nutrients

Safety Data Sheet

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

Boiling point	: $\approx 100^{\circ}\text{C}$
Flash point	: Not applicable (aqueous non combustible product)
Relative evaporation rate (butyl acetate=1)	: Not determined
Flammability (solid, gas)	: Not applicable (aqueous liquid)
Vapor pressure	: Not determined, product is non volatile and therefore not expected to pose a hazard
Vapor pressure at 50°C	: Not determined, product is non volatile and therefore not expected to pose a hazard
Relative vapor density at 20°C	: Not determined, product is non volatile at 20°C and is therefore not expected to pose a hazard
Relative density	: 1.1 – 1.2
Density	: $1100 - 1200 \text{ kg/m}^3$
Solubility	: Miscible (in all proportions) with : water.
Partition coefficient n-octanol/water (Log Pow)	: Not determined as product is inorganic
Partition coefficient n-octanol/water (Log Kow)	: Not determined as product is inorganic
Auto-ignition temperature	: Not applicable (aqueous non combustible product)
Decomposition temperature	: Not determined as chemical composition does not present hazard
Viscosity, kinematic	: Not determined
Viscosity, dynamic	: Not determined as product has a low viscosity and this property is not considered relevant for usage or hazard potential of product.
Explosion limits	: Not determined as not considered to pose an explosion hazard under normal conditions of usage or storage.
Explosive properties	: Not expected to be a fire/explosion hazard under normal conditions of use.
Oxidizing properties	: Does not meet the criteria for classification as oxidising

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 of use.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Keep out of direct sunlight. Protect from freezing.

10.5. Incompatible materials

Strong bases.

10.6. Hazardous decomposition products

No hazardous decomposition products known at room temperature. Combustion products may include the following: carbon oxides (CO, CO₂) (carbon monoxide, carbon dioxide) nitrogen oxides (NO, NO₂ etc.).

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
Skin corrosion/irritation	: Not classified

Ionic Nutrients

Safety Data Sheet

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

	pH: 3 – 7
Serious eye damage/irritation	: Not classified
	pH: 3 – 7
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified
Viscosity, kinematic	: Not determined
Potential adverse human health effects and symptoms	: Based on available data, the classification criteria are not met

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.
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12.2. Persistence and degradability

Mixture	
Persistence and degradability	Expected to be biodegradable.
Mixture	
Partition coefficient n-octanol/water (Log Pow)	Not determined as product is inorganic.
Partition coefficient n-octanol/water (Log Kow)	Not determined as product is inorganic.
Bioaccumulative potential	Bioaccumulation is not expected to occur.

12.4. Mobility in soil

Mixture	
Ecology - soil	Expected to be highly mobile in soil.

12.5. Other adverse effects

No additional information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste)	: Disposal must be done according to official regulations.
Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Sewage disposal recommendations	: Prevent entry to sewers and public waters.
Product/Packaging disposal recommendations	: A licensed hazardous-waste disposal contractor or collection site, except for empty clean containers which can be disposed of as non-hazardous waste.
Ecology - waste materials	: Avoid release to the environment.

SECTION 14: Transport information

Ionic Nutrients

Safety Data Sheet

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

In accordance with DOT / TDG / IMDG / IATA.

14.1. UN number

Not regulated for transport

14.2. UN proper shipping name

Proper Shipping Name (DOT)	: Not applicable
Proper Shipping Name (TDG)	: Not applicable
Proper Shipping Name (IMDG)	: Not applicable

14.3. Transport hazard class(es)

Proper Shipping Name (IATA)	: Not applicable
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DOT

Transport hazard class(es) (DOT)	: Not applicable
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TDG

Transport hazard class(es) (TDG)	: Not applicable
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IMDG

Transport hazard class(es) (IMDG)	: Not applicable
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IATA

Transport hazard class(es) (IATA)	: Not applicable
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14.4. Packing group

Packing group (DOT)	: Not applicable
Packing group (TDG)	: Not applicable
Packing group (IMDG)	: Not applicable
Packing group (IATA)	: Not applicable

14.5. Environmental hazards

Not applicable.

No supplementary information available.

14.6. Special precautions for user

DOT

No data available

TDG

No data available

IMDG

No data available

IATA

No data available

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

Commercial status of components according to the United States Environmental Protection Agency's Toxic Substances Control Act (TSCA):

Ionic Nutrients

Safety Data Sheet

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

All components in this mixture are listed on the TSCA Chemical Substance Inventory.

SECTION 16: Other information

Abbreviations and acronyms	
SDS	Safety Data Sheet
GHS	Globally Harmonized System of Classification and Labelling of Chemicals
EC-No	European Community number
CAS-No	Chemical Abstract Service number
DOT	US Department of Transport
TDG	Transportation of Dangerous Goods
IATA	International Air Transport Association
OSHA	Occupational Safety and Health Administration
ACGIH	American Conference of Governmental Industrial Hygienists
IMDG	International Maritime Dangerous Goods
TSCA	Toxic Substances Control Act
IOELV	Indicative Occupational Exposure Limit Value

Safety Data Sheet (SDS), USA

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety, and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.