

Section 3 · COMPOSITION/INFORMATION ON INGREDIENTS

Mixtures

<i>Chemical Name</i>	<i>Common Name & Synonyms</i>	<i>CAS Number</i>	<i>%</i>
Urea	N/A	57-13-6	Proprietary
Phosphoric Acid	N/A	7758-99-8	Proprietary
Copper Sulfate	N/A	7764-38-2	Proprietary
Ferrous Sulfate	N/A	7782-63-0	Proprietary
Zinc sulfate	N/A	7733-02-0	Proprietary
Manganese Sulfate	N/A	77-92-9	Proprietary
Cobalt Sulfate	N/A	10124-43-3	Proprietary
Sodium Molybdate	N/A	7790-62-7	Proprietary
Boric Acid	N/A	10043-35-3	Proprietary
Urea	N/A	57-13-6	Proprietary
Phosphoric Acid	N/A	7758-99-8	Proprietary

Section 4 · FIRST-AID MEASURES

Inhalation	When symptoms occur: go into open air and ventilate suspected area. Call a POISON CENTER or doctor/physician if you feel unwell.
Skin Contact	Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Obtain medical attention if irritation develops or persists. Wash contaminated clothing before reuse.
Eye Contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing for at least 60 minutes. Immediately call a POISON CENTER or doctor/physician.
Ingestion	Do NOT induce vomiting. Rinse mouth. Immediately call a POISON CENTER or doctor.
General Information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

Section 5 · FIRE-FIGHTING MEASURES

Suitable extinguishing	Not flammable, use media suitable for combustibles involved in fire.
Unsuitable extinguishing	None known.
Specific hazards arising from the chemical	<p><i>Fire Hazard:</i> Not considered flammable but may burn at high temperatures.</p> <p><i>Explosion Hazard:</i> Product is not explosive.</p> <p><i>Reactivity:</i> May react violently with oxidants, causing fire and explosion hazard.</p>
Special protective equipment and precautions for firefighters	Firefighters must wear NIOSH/MSHA approved positive pressure self-contained breathing apparatus with full face mask and full protective clothing.



Fire-fighting equipment/instructions	Use water spray or fog for cooling exposed containers. Do not breathe fumes from fires or vapors from decomposition. Do not allow run-off from firefighting to enter drains or water courses.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	Do not enter fire area without proper protective equipment, including respiratory protection.

Section 6 · ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	Avoid all contact with skin, eyes, or clothing. Avoid breathing vapor, mist, or spray. Use appropriate personal protection equipment (PPE). Evacuate unnecessary personnel.
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Methods and materials for containment and cleaning up

<i>Large Spills</i>	Clean up spills immediately and dispose of waste safely. Absorb and/or contain spill with inert material, then place in suitable container. Do not take up in combustible material such as: saw dust or cellulosic material. If spilled directly onto the ground, remove sufficient soil to ensure material is fully recovered. Contact competent authorities after a spill.
<i>Small Spills</i>	Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

Environmental precautions	Prevent entry to sewers and public waters.
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Section 7 · HANDLING & STORAGE

Precautions for safe handling	Do not handle until all safety precautions have been read and understood. Use appropriate personal protection equipment (PPE). Avoid contact with skin, eyes and clothing. Avoid breathing vapors, mist, and spray. Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work. Do not eat, drink or smoke when using this product. Wash hands and forearms thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Always wash your hands immediately after handling this product, and once again before leaving the workplace.
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Conditions for safe storage, including any incompatibilities	<i>Storage Conditions:</i> Store in a dry, cool and well-ventilated place. Keep container closed when not in use. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials. Store locked up.
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Incompatible Products: Strong acids. Strong bases. Strong oxidizers. Acetaldehyde. Chlorine. Ethylene oxide. Isocyanates. Peroxides. Bromine.

Section 8 · EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limits	No exposure limits noted for ingredient(s).
Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed.
Personal protective equipment (PPE)	
<i>Eye/face protection</i>	Wear safety glasses with side shields (or goggles) and a face shield.
<i>Skin protection</i>	Neoprene rubber gloves and apron should be worn to prevent repeated or prolonged contact with the liquid. Wash contaminated clothing prior to reuse.
<i>Hand protection</i>	Wear appropriate chemical resistant gloves.
<i>Respiratory protection</i>	None generally required. If conditions exist where mist may be generated, a NIOSH/MSHA approved mist respirator should be worn.
<i>Thermal hazards</i>	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	There are no known hazards associated with this product when use as recommended, however common good industrial hygiene practices should be followed, such as washing thoroughly after handling and before eating or drinking.

Section 9 · PHYSICAL & CHEMICAL PROPERTIES

Appearance	Dark brown, liquid.
Odor	Lignin odor.
Odor threshold	N/A
pH	2.5-3.0
Melting point/freezing point	N/A
Initial boiling point and boiling range	>212°C
Flash point	N/A
Evaporation rate	N/A
Flammability (solid, gas)	N/A
Upper/lower flammability or explosive limits	
<i>Flammability limit - lower (%)</i>	N/A
<i>Flammability limit - upper (%)</i>	N/A
<i>Explosive limit - lower (%)</i>	N/A
<i>Explosive limit - upper (%)</i>	N/A
Vapor density	N/A
Relative density	N/A
Specific gravity	11.25 lbs/gallon (typical)
Solubility(ies)	
<i>Solubility (water)</i>	100%
Partition coefficient (n-octanol/water)	N/A
Auto-ignition temperature	N/A
Decomposition temperature	>500°C
Viscosity	N/A

Section 10 · STABILITY & REACTIVITY

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions
Possibility of hazardous reactions	None known.
Conditions to avoid	Direct sunlight, heating above 120°F (48.9°C). Incompatible materials.
Incompatible materials	Strong oxidizers. This product is not compatible with lead or mercury or their alloys. These materials of construction should not be used in handling systems or storage containers for this product.
Hazardous decomposition products	None known.

Section 11 · TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:

<i>Ingestion</i>	Not determined.
<i>Inhalation</i>	Not determined.
<i>Skin Contact</i>	Not determined.
<i>Eye Contact</i>	Not determined.

Symptoms related to the physical, chemical and toxicological characteristics	Not determined.
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Information on toxicological effects:

Acute toxicity	Harmful if swallowed.
Skin corrosion/irritation	Not determined.
Serious eye damage/eye irritation	Causes serious eye irritation.
Respiratory or skin sensitization	
<i>Respiratory sensitization</i>	May cause an allergic skin reaction
<i>Skin sensitization</i>	May cause an allergic skin reaction
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
OSHA Specifically Regulated Substances	Not listed.
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects

Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not available.

Section 12 · *ECOLOGICAL INFORMATION*

Ecotoxicity	No data available.
Persistence and degradability	No data available.
Bio accumulative potential	No data available.
Mobility in soil	No data available.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

Section 13 · *DISPOSAL CONSIDERATION*

Disposal instructions	Consult federal, state and local regulations for disposal requirements.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

Section 14 · *TRANSPORT INFORMATION*

General	Not DOT regulated in domestic (USA ground) transportation.
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DOT - Basic shipping requirements:

<i>UN number</i>	Not regulated for transport
<i>DOT Label</i>	Not regulated for transport
<i>Proper shipping name</i>	Not regulated for transport
<i>Hazard class</i>	Not regulated for transport
<i>Packing group</i>	Not regulated for transport

IMGD - Basic shipping requirements:

<i>UN number</i>	Not regulated for transport
<i>IMGD Label</i>	Not regulated for transport
<i>Proper shipping name</i>	Not regulated for transport
<i>Hazard class</i>	Not regulated for transport
<i>Packing group</i>	Not regulated for transport



<i>EMS NO</i>	Not regulated for transport
IATA - Basic shipping requirements:	
<i>UN number</i>	Not regulated for transport
<i>Proper shipping name</i>	Not regulated for transport
<i>Hazard class</i>	Not regulated for transport
<i>Packing group</i>	Not regulated for transport
<i>OCAP</i>	Not regulated for transport
Environmental hazards	
<i>Marine pollutant</i>	N/A
Special precautions	Read safety instructions, SDS and emergency procedures before handling.

Section 15 · REGULATORY INFORMATION

US federal regulations	This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.	
Proposition 65 (CA)	Warning: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.	
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)		Not regulated
CERCLA Hazardous Substance List (40 CFR 302.4)		
	<i>Reportable Quantity</i>	Not applicable
SARA 304 Emergency release notification		Not regulated
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)		Not listed
Superfund Amendments and Reauthorization Act of 1986 (SARA)		
	<i>Hazard categories</i>	
	Immediate Hazard	Yes
	Delayed Hazard	No
	Fire Hazard	No
	Pressure Hazard	No
	Reactivity Hazard	No
SARA 302 Extremely hazardous substance		Not listed
SARA 311/312 Hazardous chemical	Immediate (acute)	

Section 16 · OTHER INFORMATION

Issue date	January 3, 2023
Disclaimer	The above information is based on data of which the manufacturer is aware and is believed to be correct as of the date hereon. Since the information contained herein may be applied under conditions beyond the manufacturer's control and which may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, the manufacturer does not assume any responsibility for the results of its use. This information is furnished upon the condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.