



SAFETY DATA SHEET

20-20-20 Water-Soluble Fertilizer

1. Identification

Product identifier: 20-20-20 Water-Soluble Fertilizer
Recommended use: Agricultural /horticulture use - NPK fertilizer with micronutrients - refer to product label
Recommended restrictions: None known.

Manufacturer/Importer/Supplier/Distributor information

Company name: Chemurgic Agricultural Chemicals, Inc.
Address: P.O. Box 2106
Turlock, CA 95381
Telephone: DAY: 209-634-2951 EVE: 209-652-7260
Email: info@chemurgic.net
Emergency Telephone Numbers: INFOTRAC: 1-800-535-5053
EPA National Response Center: (800) 424-8802

2. Hazard(s) identification

GHS-US Labeling

Hazard Category: Acute Toxicity – Oral: Category 5
Eye Damage/Irritation: Category 2B
Hazard pictograms: None
Signal word: Warning
Hazard statements: Causes eye irritation.
May be harmful if swallowed.
Precautionary statements:
Prevention: Wash hands thoroughly after handling.
Response: If in eyes: 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.
Call a Poison Center or doctor if you feel unwell.
Storage and Disposal: Store away from incompatible materials.
Dispose of contents/container in accordance with local regulations.
Hazard(s) not otherwise classified (HNO): Not known.
Supplemental information: 59.41% of the mixture consists of component(s) of unknown acute oral toxicity.

3. Composition/information on ingredients

Chemical name	CAS number	%
Potassium Nitrate	7757-79-1	40.4891902161
Urea	57-13-6	23.6395272094
Manganese EDTA, disodium salt	15375-84-5	0.3859122817
EDTA, Disodium Copper(II) Salt	14025-15-1	0.3571128577
Sodium tetraborate pentahydrate	12179-04-3	0.099998
Sodium Molybdate, Dihydrate	10102-40-6	0.00099998
Other components below reportable levels		35.0272594546

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation: If dust from the material is inhaled, remove the affected person immediately to fresh air. Call a physician if symptoms develop or persist.

Skin contact: Wash off with soap and water. Get medical attention if irritation develops and persists.

Eye contact: Rinse eyes cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion: Rinse mouth. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical advice/attention if you feel unwell.

Most important symptoms/effects, acute and delayed:

Irritation of eyes. Upper respiratory tract irritation.

Indication of immediate medical attention and special treatment needed:

Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

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.

5. Fire-fighting measures

Suitable extinguishing media: Water fog. Foam. Dry chemical powder. Carbon dioxide (CO₂).

Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical: During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire-fighting equipment/instructions: Use water spray to cool unopened containers.

Specific methods: Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards: No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid inhalation of dust from the spilled material. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Stop the flow of material, if this is without risk. Dike far ahead of spill for later disposal. If sweeping of a contaminated area is necessary, use a dust suppressant agent which does not react with the product. Collect dust using a vacuum cleaner equipped with HEPA filter. Following product recovery, flush area with water. Sweep up or vacuum up spillage and collect in suitable container for disposal. Minimize dust generation and accumulation. Prevent entry into waterways, sewer, basements or confined areas. For waste disposal, see section 13 of the SDS.

Environmental precautions: Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling: Minimize dust generation and accumulation. Provide appropriate exhaust ventilation at places where dust is formed. Do not taste or swallow. Avoid breathing dust. Avoid contact with eyes. Avoid prolonged exposure. Wear appropriate personal protective equipment. When using, do not eat, drink or smoke. Wash hands thoroughly after handling. Observe good industrial hygiene practices. Practice good housekeeping.

Conditions for safe storage, including any incompatibilities: Store in original tightly closed container. Keep container tightly closed. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Manganese EDTA, disodium salt (CAS 15375-84-5)	Ceiling	5 mg/m ³
Sodium Molybdate, Dihydrate (CAS 10102-40-6)	PEL	5 mg/m ³

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Sodium Molybdate, Dihydrate (CAS 10102-40-6)	TWA	0.5 mg/m ³	Respirable fraction.
	STEL	6 mg/m ³	Inhalable fraction.
Sodium tetraborate pentahydrate (CAS 12179-04-3)	TWA	2 mg/m ³	Inhalable fraction.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
EDTA, Disodium Copper(II) Salt (CAS 14025-15-1)	TWA	1 mg/m ³	Dust and mist.
Manganese EDTA, disodium salt (CAS 15375-84-5)	STEL	3 mg/m ³	Fume.
	TWA	1 mg/m ³	Fume.
Sodium tetraborate pentahydrate (CAS 12179-04-3)	TWA	1 mg/m ³	

US. AIHA Workplace Environmental Exposure Level (WEEL) Guides

Components	Type	Value	Form
Urea (CAS 57-13-6)	TWA	10 mg/m ³	Total particulate.

Biological limit values: No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls: Ventilation should be sufficient to effectively remove and prevent buildup of any dusts or fumes that may be generated during handling or thermal processing. If engineering measures are not sufficient to maintain concentrations of dust particulates below the Occupational Exposure Limit (OEL), suitable respiratory protection

must be worn. Provide eyewash station.

Individual protection measures, such as personal protective equipment:

Eye/face protection	Face shield is recommended. Wear safety glasses with side shields (or goggles). Use tight fitting goggles if dust is generated.
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves.
Other	Wear suitable protective clothing.
Respiratory protection	Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. Respiratory protection not required.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene	
Considerations	Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	Powder.
Physical state	Solid.
Form	Powder.
Color	Light blue
Odor	None.
Odor threshold	Not available.
pH	Not available.
Salt-Out / Crystallization Temp	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Soluble
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.

10. Stability and 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: No dangerous reaction known under conditions of normal use.

Conditions to avoid: Contact with incompatible materials. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air).

Incompatible materials: Strong oxidizing agents.

Hazardous decomposition products: No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Ingestion	May be harmful if swallowed.
Inhalation	Prolonged inhalation may be harmful. Inhalation of dusts may cause respiratory irritation.
Skin contact	No adverse effects due to skin contact are expected.
Eye contact	Causes eye irritation. Dust in the eyes will cause irritation.

Symptoms related to the physical, chemical and toxicological characteristics: Irritation of eyes. Upper respiratory tract irritation.

Information on toxicological effects

Acute toxicity: May be harmful if swallowed.

Components	Species	Test Results
Potassium Nitrate (CAS 7757-79-1)		
Acute		
Oral LD50	Rabbit	1166 mg/kg
Sodium tetraborate pentahydrate (CAS 12179-04-3)		
Acute		
Dermal LD50	Rabbit	> 1055 mg/kg
Inhalation LC50	Rat	> 2 mg/L
Oral LD50	Rat	2660 mg/kg
Urea (CAS 57-13-6)		
Acute		
Oral LD50	Rat	8471 mg/kg
	Sheep	28500 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation: Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation: Causes eye irritation. Dust in the eyes will cause irritation.

Respiratory or skin sensitization

Respiratory sensitization: Not available.

Skin sensitization: This product is not expected to cause skin sensitization.

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 (29 CFR 1910.1001-1050): 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.

Chronic effects: Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity: The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Product	Species	Test Results
20-20-20 Water Soluble Fertilizer (CAS Mixture)		
Aquatic		
Acute		
Fish LC50	Fish	25913.4492 mg/l, 96 hr estimated

Components	Species	Test Results
EDTA, Disodium Copper(II) Salt (CAS 14025-15-1)		
Aquatic		
Fish LC50	Channel catfish (<i>Ictalurus punctatus</i>)	838 mg/l, 96 hours
Potassium Nitrate (CAS 7757-79-1)		
Aquatic		
Acute		
Fish LC50	Fish	1378 - 3000 mg/l
Sodium Molybdate, Dihydrate (CAS 10102-40-6)		
Aquatic		
Crustacea EC50	Tubificid worm (<i>Tubifex tubifex</i>)	42.48 - 65.64 mg/l, 48 hours
Fish LC50	Striped bass (<i>Morone saxatilis</i>)	> 79.8 mg/l, 96 hours
Sodium tetraborate pentahydrate (CAS 12179-04-3)		
Aquatic		
Fish LC50	Western mosquitofish (<i>Gambusia affinis</i>)	104 mg/l, 96 hours
Urea (CAS 57-13-6)		
Aquatic		
Crustacea EC50	Water flea (<i>Daphnia magna</i>)	3910 mg/l, 48 hours
Fish LC50	Carp (<i>Leuciscus idus melanotus</i>)	> 10000 mg/l, 48 hours
	Guppy (<i>Poecilia reticulata</i>)	16200 - 18300 mg/l, 96 hours
	Harlequinfish, red rasbora (<i>Rasbora heteromorpha</i>)	12000 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability: No data is available on the degradability of this product.

Bioaccumulative potential: Not available.

Partition coefficient n-octanol / water (log Kow)

Urea -2.11

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.

13. Disposal considerations

Disposal instructions: Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations: Dispose in accordance with all applicable regulations.

Hazardous waste code: The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

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.

14. Transport information

DOT: Not regulated as dangerous goods.

IATA: Not regulated as dangerous goods.

IMDG: Not regulated as dangerous goods.

15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

One or more components are not listed on TSCA.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

EDTA, Disodium Copper(II) Salt (CAS 14025-15-1) Listed.

Manganese EDTA, disodium salt (CAS 15375-84-5) Listed.

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)

Hazard categories 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

No.

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Potassium Nitrate	7757-79-1	40.4891902161
Monoammonium Phosphate (MAP)	7722-76-1	29.5494090118

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Manganese EDTA, disodium salt (CAS 15375-84-5)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)

Not regulated.

US state regulations

US. Massachusetts RTK - Substance List

Potassium Nitrate (CAS 7757-79-1)

Sodium tetraborate pentahydrate (CAS 12179-04-3)

US. New Jersey Worker and Community Right-to-Know Act

EDTA, Disodium Copper(II) Salt (CAS 14025-15-1)

Manganese EDTA, disodium salt (CAS 15375-84-5)

Potassium Nitrate (CAS 7757-79-1)

Sodium tetraborate pentahydrate (CAS 12179-04-3)

US. Pennsylvania Worker and Community Right-to-Know Law

Potassium Nitrate (CAS 7757-79-1)

Sodium tetraborate pentahydrate (CAS 12179-04-3)

US. Rhode Island RTK

EDTA, Disodium Copper(II) Salt (CAS 14025-15-1)

Manganese EDTA, disodium salt (CAS 15375-84-5)

Potassium Nitrate (CAS 7757-79-1)

US. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.



SAFETY DATA SHEET

20-20-20 Water-Soluble Fertilizer

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information

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