

SAFETY DATA SHEET

1. Identification

Trade Name: ENCOURAGE[®] FORAGE

Other means of identification

Product code: 162-F-5-D
Recommended use: Fertilizer
Recommended restrictions: None Known

Manufacturer information:

Oro Agri, Inc.
2788 S. Maple Ave
Fresno, CA 93725

Telephone Number: +1 (559) 442-4996
Email: SDS-NA@oroagri.com

Emergency Telephone Number: Incident Spill, Leak, Fire, Exposure or Accident
Call CHEMTREC Day or Night

Within USA and Canada:
1 (800) 424-9300

Outside USA:
+1 (703) 741-5970

2. Hazard(s) identification

Physical Hazards

Flammable liquids (Category 4)

Health hazards

Skin corrosion/irritation (Category 2)
Serious eye damage/eye irritation (Category 1)
Sensitization, skin (Category 1)
Reproductive toxicity (Category 2)

Environmental Hazards

Hazardous to the aquatic environment, acute hazard (Category 3)
Hazardous to the aquatic environment, long-term hazard (Category 3)

OSHA defined hazards

Not classified.

Label elements



Signal word

Danger

Hazard statement

Combustible liquid. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye damage. Suspected of damaging fertility or the unborn child. Harmful to aquatic life with long lasting effects.

Precautionary statement

Prevention

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from flames and hot surfaces-No smoking. Avoid breathing mist or vapor. Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

Response

If on skin: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. Take off contaminated clothing and wash before reuse. In case of fire: Use foam, carbon dioxide, dry powder or water fog to extinguish.

Storage

Store in a well-ventilated place. Keep cool. Store locked up.

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC)

None known.

Supplemental Information

None.

3. Composition/information on ingredients**Mixtures**

Chemical name	CAS Number	%
Proprietary Mixture ¹		
Urea	57-13-6	5-10
Sodium Molybdate	7631-95-0	3-5
Manganese Chloride	13446-34-9	1-3
Zinc Chloride	7646-85-7	1-3

Composition comments

¹ Components not listed are either non-hazardous, below reportable limits or withheld as a trade secret.

4. First-aid measures**Inhalation**

Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact

Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions. Wash contaminated clothing before reuse.

Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

Ingestion

Rinse mouth. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.

Indication of immediate medical attention and special treatment needed

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

General information

IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). 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. Wash contaminated clothing before reuse.

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

The product is combustible, and heating may generate vapors which may form explosive vapor/air mixtures. 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.

Firefighting equipment instructions

In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.

Specific methods

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

General fire hazards

Combustible liquid.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. 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

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Prevent product from entering drains.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions

Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from open flames, hot surfaces and sources of ignition. When using do not smoke. Do not get in eyes and avoid contact with skin and clothing. Avoid breathing mist or vapor. Avoid prolonged exposure. Pregnant or breastfeeding women must not handle this product. Persons susceptible to allergic reactions should not handle this product. Should be handled in closed systems, if possible. Provide adequate ventilation. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Keep away from heat, sparks and open flame. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. 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	Form
Manganese chloride (CAS 13446-34-9)	Ceiling	5 mg/m3	
Sodium Molybdate (CAS 7631-95-0)	PEL	5 mg/m3	
Zinc Chloride (CAS 7646-85-7)	PEL	1 mg/m3	Fume

US ACGIH Threshold Limit Values

Components	Type	Value	Form
Manganese chloride (CAS 13446-34-9)	TWA	0.1 mg/m3	Inhalable fraction
		0.02 mg/m3	Respirable fraction
Sodium Molybdate (CAS 7631-95-0)	TWA	0.5 mg/m3	Respirable fraction
Zinc Chloride (CAS 7646-85-7)	STEL	2 mg/m3	Fume
	TWA	1 mg/m3	Fume
Proprietary Component	STEL	6 mg/m3	Inhalable fraction
	TWA	2 mg/m3	Inhalable fraction

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
Manganese chloride (CAS 13446-34-9)	STEL	3 mg/m3	Fume
	TWA	1 mg/m3	Fume
Zinc Chloride (CAS 7646-85-7)	STEL	2 mg/m3	Fume
	TWA	1 mg/m3	Fume
Proprietary Component	TWA	5 mg/m3	

US. Workplace Environmental Exposure Level (WEEL) Guides

Components	Type	Value	Form
Urea (CAS 57-13-6)	TWA	10 mg/m3	Total particulate

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide easy access to water supply and eye wash facilities.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear safety glasses with side shields (or goggles). Wear a face shield if there is a risk of splashing.

Skin protection

Hand protection

Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.

Other

Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Observe any medical surveillance requirements. When using do not smoke. 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. Contaminated work clothing should not be allowed out of the workplace.

9. Physical chemical properties

Appearance

Physical state Liquid.

Form Liquid.

Color Black.

Odor Not available.

Odor threshold Not available.

pH 4.0 – 6.0

Melting point/freezing point Not available.

Initial boiling point and boiling range Not available.

Flash point 80.0 °C (>176.0 °F) Pensky-Martens Closed Cup

Evaporate rate Not available.

Flammability (solid, gas) Not available.

Vapor pressure Not available.

Vapor density Not available.

Relative density 1.1 - 1.2 (Water = 1)

Solubility(ies)

Solubility (water) Not determined.

Partition coefficient (n-octanol/water) Not available.

Auto-ignition temperature Not available.

Decomposition temperature Not available.

Viscosity 50 - 400 mPa·s

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

Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.

Incompatible materials

Strong oxidizing agents.

Hazardous decomposition products

Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

11. Toxicological information

Information on likely routes of exposure

Inhalation

Prolonged inhalation may be harmful.

Skin contact

Causes skin irritation. May cause an allergic skin reaction.

Eye contact

Causes serious eye damage.

Ingestion

May cause discomfort if swallowed. However, ingestion is not likely to be a primary route of occupational exposure.

Symptoms related to the physical, chemical and toxicological characteristics

Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.

Information on toxicological effects

Acute toxicity

Not expected to be acutely toxic.

Skin corrosion/irritation

Causes skin irritation.

Serious eye damage/eye irritation

Causes serious eye damage.

Respiratory or skin sensitization

Respiratory sensitization

Not a respiratory sensitizer.

Skin sensitization

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

Not classifiable as to carcinogenicity to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

NTP Report on Carcinogens

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

Reproductive toxicity

Suspected of damaging fertility or the unborn child.

Specific target organ toxicity - single exposure

Not classified.

Specific target organ toxicity - repeated exposure

Not classified.

Aspiration hazard

Not an aspiration hazard.

Chronic effects

Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity

Harmful to aquatic life with long lasting effects.

Persistence and degradability

No data is available on the degradability of any ingredients in the mixture.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

Urea (CAS 57-13-6) -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. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. 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 packing

Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information**DOT**

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and IBC code

Not applicable.

15. Regulatory Information**US federal regulations**

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

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

Not regulated

OSHA Specifically Regulated Substances (29 CFR1910.1001-1050)

Not regulated.

SARA 304 Emergency release notification

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

ENCOURAGE FORAGE
162F5D-US-0001 Version 02
Date: March 15, 2018

Manganese chloride (CAS 13446-34-9) Listed
 Zinc Chloride (CAS 7646-85-7) Listed
 One or more proprietary components of this material is listed on the CERCLA Hazardous Substance List.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance
 Not listed.

SARA 311/312 Hazardous chemical
 Flammable (gases, aerosols, liquids, or solids)
 Skin corrosion or irritation
 Serious eye damage or eye irritation
 Respiratory or skin sensitization
 Reproductive toxicity

SARA 313 (TRI reporting)
 Manganese chloride (CAS 13446-34-9) 1-3 % by wt.
 Zinc chloride (CAS 7646-85-7) 1-3 % by wt.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) list
 Manganese chloride tetrahydrate (CAS 13446-34-9)

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

One or more components of this material is listed on:
 US. Massachusetts RTK - Substance List
 US. New Jersey Worker and Community Right-to-Know Act
 US. Pennsylvania Worker and Community Right-to-Know Law
 US. Rhode Island RTK

US. California Proposition 65
 California Safe Drinking Water and Toxic Enforcement Act of 2016 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

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)	Yes
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)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes
*A "Yes" indicates this product complies 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

Version #: 02

NFPA ratings



Disclaimer

ORO AGRI cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. As conditions of actual product use are beyond control of the supplier, it is assumed that users of this material have been fully trained in accordance with all applicable occupational health and safety requirements.

The information in this sheet was written based on the best knowledge and experience currently available and was obtained from sources considered accurate and reliable. The above information is believed to be correct but does not purport to be all inclusive and should be used only as a guide. No warranty, expressed or implied, is made and ORO AGRI will not be liable for any losses, injuries or consequential damages which may result from the use of or reliance on any information contained in this SDS.

ENCOURAGE and ORO AGRI are registered trademarks of Oro Agri, Inc.
© 2018 All Rights Reserved