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)
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
Warning

Hazard statement
Causes skin irritation. Suspected of damaging fertility or the unborn child.

Precautionary statement

Prevention
Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wash thoroughly after handling. Wear protective gloves. Wear eye protection or face protection. Avoid release to the environment.

Response

If on skin: wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. If exposed or concerned: Get medical advice/attention.

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
Skin irritation. May cause redness and pain.

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
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
Material will burn in a fire.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures
Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. 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. Be aware of potential for surfaces to become slippery. 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
Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Prevent product from entering drains. Following product recovery, flush area with water.

Small Spills: 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. Do not get this material in contact with eyes. Avoid breathing fume/mist/vapors/spray. Use only outdoors in a well-ventilated area. 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. Store in original tightly closed container. 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.

Eye contact
May cause discomfort if comes into contact with eyes.

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
Skin irritation. May cause redness and pain.

Information on toxicological effects

Acute toxicity
Not expected to be acutely toxic.

Skin corrosion/irritation

Causes skin irritation.

Serious eye damage/eye irritation
Shall not be classified as eye irritant.

Respiratory or skin sensitization
Shall not be classified as a separatory or skin sensitizer.

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)
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 #: refer to footer

Revision date: refer to footer

Disclaimer
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