

Offer Sheet

Product	Molasses
Quantity	Stored in tanks, ship via rail or heated tanker
Net weight	3 million lbs. current inventory
Manufacture date	
Availability	2-3 RCs/month ongoing
Location	Houston, TX and other locations
Date	3/19/26
COA & SDS	Attached below

Nut Code	Nut Description	Value as is	Value on DM	Unit
002	Dry Matter	73.0000	73.000	%
003	Crude Protein	4.2662	5.844	%
005	Crude Fat	0.2918	0.400	%
007	Ash %	9.4805	12.987	%
008	Total Sugar Invert	47.4023	64.935	%
218	Sugars (CHO A4)	58.9689	80.779	%
009	Moisture	27.0000	27.000	%
183	Density	12.1053	16.583	lbs/gal
196	Cation mEq/100g	83.4428	114.305	mEq/100g
197	DCAD mEq	15.2686	20.916	mEq/100g
199	Est Product RI	72.0828	98.744	%
193	Brix	79.6405	109.097	Brix
071	NFE	58.9684	80.779	%
117	NSC	58.9689	80.779	%
016	Potassium	3.1096	4.260	%
010	Calcium	0.8200	1.123	%
014	Chloride	0.7584	1.039	%
015	Magnesium	0.3500	0.479	%
011	Phosphorus	0.0588	0.081	%
013	Sodium	0.0853	0.117	%
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019	Copper	8.5324	11.688	ppm
020	Iron	118.5057	162.337	ppm
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076	NE (Maint) Mcal/cwt	69.0674	94.613	Mcal/cwt
077	NE (Gain) Mcal/cwt	47.0104	64.398	Mcal/cwt
178	NE (Gain) Mcal/kg	1.0342	1.417	Mcal/kg
176	NE (Iac) Mcal/kg	1.4291	1.958	Mcal/kg
177	NE (Main) Mcal/kg	1.5227	2.086	Mcal/kg
075	NE (Lact) Mcal/cwt	64.8254	88.802	Mcal/cwt
072	TDN	62.2563	85.283	%

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Molasses (cane or beet) is a viscous byproduct of sugar refining valued for its **fermentable sugars, mineral content, and carbon value**. It is a high-volume commodity used across agriculture, fermentation, and industrial processes.

1) Animal Feed & Feed Supplements (*largest volume use*)

- **Palatability enhancer** in cattle, swine, and poultry feed
- Liquid energy source (sugars ~45–55%)
- Dust suppressant in feed mixes
- Binder in pelleted feeds

Why used: inexpensive calories + improves intake.

Typical inclusion: 3–10% of ration.

2) Fermentation Feedstock

Major industrial outlet.

- Ethanol production (fuel and industrial)
- Yeast manufacturing
- Organic acids (citric, lactic, acetic)
- Amino acids (lysine, glutamate)
- Industrial alcohols and solvents

Why used: low-cost sugar source vs refined sucrose.

3) Wastewater Treatment & BNR Carbon Source (*relevant to your sector*)

- External carbon for **denitrification**
- BOD boost for biological treatment
- Used in municipal and industrial plants

Positioning vs alternatives:

- Cheaper than methanol in some markets
 - Slower kinetics than simple alcohols
 - Safer handling profile
-

4) Agriculture & Soil Applications

- Soil microbial stimulant
- Liquid fertilizer blends
- Compost activator
- Dust control on unpaved roads (limited)

Mechanism: feeds beneficial microbes.

5) Industrial Binder Applications

- Briquetting (coal, biomass, minerals)
 - Animal feed pellets
 - Dust suppression in bulk solids
 - Foundry sand binders (limited niche)
-

6) Food & Beverage (food-grade streams)

- Baking and confectionery
- Flavoring and coloring
- Rum production
- Specialty syrups

(Note: this channel is smaller in volume vs feed/fermentation.)

7) Bioenergy & Renewable Markets

- Biogas/anaerobic digestion feedstock
 - Renewable chemical platforms
 - Emerging bio-based materials
-

Commercial Profile

Attribute	Position
Market type	High-volume commodity
Typical packaging	Bulk tank, rail, barge
Key value driver	Sugar content (Brix)
Major end markets	Feed, fermentation, ethanol
Density	~11.5–12.0 lb/gal

Certificate of Analysis

Date: 02/17/26

Product Number: RM800-8

Product Type: 80 Brix Molasses

Shipment Type: Railcar, Trucks

Lot: 25-120316

<u>Code</u>	<u>Description</u>	<u>Value As Is</u>	<u>Value on DM</u>	<u>Unit</u>
002	Dry Matter	75.47	75.47	%
003	Crude Protein	3.72	4.93	%
005	Crude Fat	0.28	0.37	%
006	Crude Fiber	0.09	0.12	%
007	Ash %	14.61	19.36	%
008	Total Sugar Invert	47.75	63.27	%
009	Moisture	24.53	24.53	%
071	NFE	56.75	75.19	%
117	NSC	56.86	75.34	%
218	Sugars (CHO A4)	56.84	75.31	%
183	Density	11.55	15.30	lbs/gal
195	Anion mEq/100g	85.19	112.87	mEq/100g
196	Cation mEq/100g	91.96	121.84	mEq/100g
197	DCAD mEq	6.77	8.97	mEq/100g
199	Est Product RI	74.74	99.03	%
193	Brix	79.50	105.33	Brix
072	TDN	59.67	79.06	%
075	NE (Lact) Mcal/cwt	59.09	78.29	Mcal/cwt
076	NE (Maint) Mcal/cwt	61.63	81.66	Mcal/cwt
077	NE (Gain) Mcal/cwt	40.19	53.24	Mcal/cwt
010	Calcium	0.64	0.84	%
011	Phosphorus	0.04	0.06	%
012	Salt (Calculated basis Chlorides)	3.26	4.32	%

013	Sodium	0.05	0.06	%
014	Chloride	1.62	2.15	%
015	Magnesium	0.29	0.38	%
016	Potassium	3.51	4.65	%
017	Sulfur	0.63	0.84	%
135	% Cane	90.73	120.22	%

The nutrient profile provided is, to the best of our knowledge, accurate for this compound or ingredient. If this profile is more than 90 days old, a new profile should be requested. The ingredient or ingredients used to manufacture this supplement are likely byproducts of other industries (food, biofuels, etc.) and nutrients provided on this profile are subject to change. There are no warranties, expressed or implied, about the accuracy of this product other than what is provided on the guaranteed analysis feed tag that is provided with the product shipment or by your sales rep. a complete analysis should be routinely done on individual ingredients and on the complete diet to confirm that the nutritional needs of the animals being fed are met.

Safety Data Sheet (SDS)

ID: RM800

RM800		
1. PRODUCT and COMPANY IDENTIFICATION		
	CHEMTREC (24 hr. Emergency Response): U.S. Toll Free (800)424-9300 International +1 703 527 3887	
	Non-emergency Customer Service:(404)252-5350	
Product Name:	RM800	
Chemical Family:	Molasses	
Product Use:	Animal feedstuffs; fermentation; industrial application.	
2. HAZARDS IDENTIFICATION		
Physical hazards:	Not classified.	
Health hazards:	Not classified.	
OSHA defined hazards:	Not classified.	
Label elements		
Hazard symbol:	None.	
Signal word:	None.	
Hazard statement:	The substance does not meet the criteria for classification.	
Precautionary statement		
Prevention:	Observe good industrial hygiene practices.	
Response:	Wash hands after handling.	
Storage:	Store away from incompatible materials.	
Disposal:	Dispose of waste and residues in accordance with local authority requirements.	
Hazard Classification	This product does not meet the criteria for classification when reviewed according to the requirements of the Occupational Safety and Health Administration Hazard Communication Standard, 29 CFR 1910.1200.	
Supplemental information:	None.	
3. COMPOSITION, INFORMATION ON INGREDIENTS		
Mixtures		
Chemical Name	CAS Number	%
Molasses	68476-78-8	1-100
Water	7732-18-5	1-99
Composition comments:	All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume. The Manufacturer has claimed the exact percentage as trade secret under the OSHA Hazard Communication Standard.	
4. FIRST-AID MEASURES		
Inhalation:	If symptomatic, move to fresh air. Get medical attention if symptoms persist.	

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Skin contact:	Wash skin with soap and water. Get medical attention promptly if symptoms occur after washing.
Eye contact:	Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses. Get medical attention promptly if symptoms occur after washing.
Ingestion:	First aid is normally not required. However, if greater than ½ liter (pint) ingested, seek medical attention.
Most important symptoms/effects, acute and delayed	Direct contact with eyes may cause temporary irritation. Prolonged or repeated skin contact may cause drying, cracking, or irritation.
Indication of immediate medical attention and special treatment needed:	Treat symptomatically.
General information:	Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.
5. FIRE-FIGHTING MEASURES	
Suitable extinguishing media:	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂)
Unsuitable extinguishing media:	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	
Hazard combustion products:	Fermentation can yield carbon dioxide with possible traces of ethanol or volatile fatty acids (e.g. acetic, propionic, lactic, or butyric) and if exposed to a spark or flame may result in an explosion. These conditions should be avoided. Decomposition products released in a fire should be considered as harmful.
Special protective equipment and precautions for firefighters:	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Specific methods:	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards:	Under improper storage or disposal conditions, porous materials such as rags, insulation, or clay containing this material may spontaneously combust.
6. ACCIDENTAL RELEASE MEASURES	
Person precautions, protective equipment, and emergency procedures:	Keep unnecessary personnel away. For person protection, see section 8 of the SDS. Wear appropriate person protective equipment (see Section 8).
Methods and materials for containment and cleaning up:	The product is immiscible with water and will spread on the water surface. 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

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	<p>place into containers. Following product recovery, flush area with water.</p> <p>Small Spills: Wipe up with absorbent material (e.g., cloth, fleece). Clean surface thoroughly to remove residual contamination.</p> <p>Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. Dike for later disposal. Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Flush area with water. Prevent runoff from entering drains, sewers, or streams.</p>
Environmental precautions:	Avoid discharge into drains, water courses or onto the ground.
7. HANDLING AND STORAGE	
Precautions for safe handling:	Avoid prolonged exposure. Observe good industrial hygiene practices. Proper sanitation with food grade products is essential.
Conditions for safe storage, including any incompatibilities:	Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS). Keep container closed.
Container Warnings:	Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty container should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.
8. EXPOSURE CONTROLS/PERSONAL PROTECTION	
Occupational exposure limits	
None	
Exposure controls:	Store below 120deg F
Biological limit values:	No biological exposure limits noted for the ingredient(s).
Appropriate engineering:	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 to an acceptable level. Ensure adequate ventilation, especially in confined areas.
Individual protection measures, such as personal protective equipment	
Eye/face protection:	If contact is likely, safety glasses with side shields are recommended.
Skin protection- Hand protection:	Not normally needed. Protective gloves are recommended.
Skin protection – Other:	Not normally needed. Wear suitable protective clothing.

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Respiratory protection:	If engineering controls do not maintain airborne concentrations below recommend exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA 29 CFR 1910.134. Respirator type: Air-purifying respirator with an appropriate, government approved (where applicable), air-purifying filter, cartridge, or canister.
Thermal hazards:	No protection is ordinarily required under normal conditions of use. Wear appropriate thermal protective clothing when necessary.
General hygiene considerations:	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

Attention: the data below are typical values and do not constitute a specification.	
Appearance:	Viscous Liquid
Physical state:	Syrupy Liquid
Color:	Brown to Black
Odor:	Sweet
Odor threshold:	No data available
pH:	4-10
Melting point/freezing point:	No data available
Initial boiling point and boiling range:	>212 degF
Flash point:	No data available
Evaporation rate:	No data available
Flammability (solid, gas)	No data available
<u>Upper/lower flammability or explosive limits</u>	
Flammability limit – lower (%)	Not applicable
Flammability limit – upper (%)	Not applicable
Explosive limit – lower (%)	Not available
Explosive limit – upper (%)	Not available
Vapor pressure:	Not available
Vapor density:	Not available
Relative Density:	1.0 – 1.5 g/ml (8.33-12.5 lbs/gal)
Solubility (water):	Soluble in water
Auto-ignition temperature	Not available
Decomposition temperature:	Not available
Viscosity:	Not available

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10. STABILITY AND REACTIVITY	
Reactivity:	Reacts with concentrated nitric acid.
Chemical stability:	Material is stable under normal conditions.
Possibility of hazardous reactions:	Ferments when diluted with water. If diluted below 50% fermentation may occur with large expansion in volume (addition of propionic or sulfuric acid to decrease pH to <4/5 will prevent fermentation). Care should be taken when adding sulfuric acid to prevent charring. Acid must be added with strong agitation at point of contact.
Conditions to avoid:	Exposure to heat and contact with sources of ignition. High surface area exposure to oxygen can result in polymerization and release of heat.
Incompatible materials:	None known.
Hazardous decomposition products:	Carbon monoxide, alcohol or fatty acid vapors.
11. TOXICOLOGICAL INFORMATION	
Information on likely routes of exposure	
Skin contact:	May cause skin irritation
Eye contact:	May cause eye irritation
Ingestion:	Not for human consumption
Symptoms related to the physical, chemical, and toxicological characteristics:	Direct contact with eyes may cause temporary irritation.
Information on toxicological effects	
Acute toxicity:	Not available
Skin corrosion/irritation:	Prolonged or repeated skin contact may cause drying, cracking, or irritation.
Serious eye damage/eye irritation:	Direct contact with eyes may cause temporary irritation.
Respiratory or skin sensitization	
Respiratory sensitization:	Not a respiratory sensitizer.
Skin sensitization:	Sensitive individuals may experience dermatitis after long exposure of oil on skin.
Germ cell mutagenicity:	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity:	No data
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:	No data

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Specific target organ toxicity – repeated exposure:	Not classified
Listed in the National Toxicology Program (NTP) Report on Carcinogens:	No
International Agency for Research on Cancer (IARC) Monographs Potential Carcinogen:	No
12. ECOLOGICAL INFORMATION	
Ecotoxicity:	Results in high Biological Oxygen Demand (BOD) and potential oxygen depletion of aquatic systems.
Persistence and degradability:	No data available.
Bioaccumulative potential:	No data available.
Mobility in soil:	No data available.
Other adverse effects:	None known.
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. When this product as supplied is to be discarded as waste, it does not meet the definition of a RCRA waste under 40 CFR 261.
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.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not established
15. REGULATORY INFORMATION	
Safety, health and environmental regulations/	NA

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legislation specific for the substance or mixture:	
Evaluation of the chemical safety:	NA
16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION	
Issue date:	01/17/2025
Revision date:	01/17/2025
NFPA Ratings	Health: 0 Flammability: 1 Reactivity: 0
References:	ACGIH EPA: AQUIRE database NLM: Hazardous Substances Data Base US. IARC Monographs on Occupational Exposures to Chemical Agents
Disclaimer:	
<p>To the best of our knowledge, the information contained herein is accurate. However, neither the above names supplier nor any of its subsidiaries assumes any liability whatsoever for completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist. Renewable Materials 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. The information in the sheet was written based on the best knowledge and experience currently available.</p>	

Technical Data Sheet

Product Number: RM800

Product Type: Molasses Blends

Shipment Type: Liquid Bulk Shipment – Truck

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072	TDN	62.2563	85.283	%

THE NUTRIENT PROFILE PROVIDED IS, TO THE BEST OF OUR KNOWLEDGE, ACCURATE FOR THIS COMPOUND OR INGREDIENT. IF THIS PROFILE IS MORE THAN 90 DAYS OLD, A NEW PROFILE SHOULD BE REQUESTED. THE INGREDIENT OR INGREDIENTS USED TO MANUFACTURE THIS SUPPLEMENT ARE LIKELY BYPRODUCTS OF OTHER INDUSTRIES (FOOD, BIOFUELS, ETC.) AND NUTRIENTS PROVIDED ON THIS PROFILE ARE SUBJECT TO CHANGE. THERE ARE NO WARRANTIES, EXPRESSED OR IMPLIED, ABOUT THE ACCURACY OF THIS PROFILE OTHER THAN WHAT IS PROVIDED ON THE GUARANTEED ANALYSIS FEED TAG THAT IS PROVIDED WITH THE PRODUCT SHIPMENT OR BY YOUR SALES REP. A COMPLETE ANALYSIS SHOULD BE ROUTINELY DONE ON INDIVIDUAL INGREDIENTS AND ON THE COMPLETE DIET TO CONFIRM THAT THE NUTRITIONAL NEEDS OF THE ANIMALS BEING FED ARE MET.