

**SAFETY DATA SHEET**

Dyna Cal 10.25%

Date Prepared: 12/10/2013

Replaces: All Previous

**SECTION 1. IDENTIFICATION**

Product Name: Dyna Cal 10.25%  
Synonyms: SOARCA  
Use: Agricultural, Liquid Micronutrient Fertilizer  
Manufacturer: Chemical Dynamics, Inc.  
4206 Business Lane  
Plant City FL 33566  
Phone: 813-752-4950  
Chemtrec (Emergency) Phone: 800-424-9300

**SECTION 2. HAZARDS IDENTIFICATION**

Product is not classified as hazardous under normal conditions.

**SECTION 3. COMPOSITION**

Material	CAS #	EINECS #	%WT
Hydrated Ammonium Calcium Nitrate double salt (Ca.xNH <sub>3</sub> .xHNO <sub>3</sub> )	15245-12-2	239-289-5	Proprietary
Water	7732-18-5	231-791-2	balance

See product label for guaranteed analysis.

**SECTION 4. FIRST AID MEASURES**

<b>General:</b>	In case of persisting adverse effects consult a physician. Treat symptomatically.
<b>Ingestion:</b>	Rinse mouth. Do NOT induce vomiting. Drink large amounts of water. Never give anything by mouth to an unconscious person. Seek medical attention.
<b>Skin Contact:</b>	If on skin (or hair): Take off all contaminated clothing. Rinse skin with soap and water for at least 15 minutes.
<b>Inhalation:</b>	If inhaled: Remove person to fresh air and keep comfortable for breathing. Provide artificial respiration if necessary. Seek medical attention if necessary.
<b>Eye Contact:</b>	Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. If eye irritation persists: get medical attention.
<b>Acute Exposure Symptoms:</b>	Moderate irritant of eyes, skin and contaminated tissue. Prolonged contact can result in tissue damage which could lead to blindness. Ingestion can be harmful or fatal.
<b>Chronic Exposure Symptoms:</b>	Prolonged skin contact may result in dermatitis (inflammation and redness of skin).

<b>SECTION 5. FIRE FIGHTING MEASURES</b>	
<b>Extinguishing Media:</b>	Water spray is recommended. Halon, foam, dry chemical, CO2 or any ABC class extinguisher are acceptable. Use extinguishing agent most appropriate to surrounding materials.
<b>Specific Hazards:</b>	This product is an aqueous mixture which will not burn. Under fire conditions, this product behaves as an oxidizer. Contact with oxidizable substances may result in ignition. Violent combustion or explosion when involved in fire can occur. In a fire this material may decompose and produce acrid vapors, calcium compounds and oxides of nitrogen.
<b>Protective Equipment and Precautions for Fire-Fighters:</b>	Wear self-contained breathing apparatus (SCBA) and full protective gear. Avoid inhaling combustion products. Fire run-off should be contained to prevent possible environmental damage.
<b>NFPA Rating:</b>	Health: 1, Fire: 0, Reactivity: 0

<b>SECTION 6. ACCIDENTAL RELEASE MEASURES</b>	
<b>Precautions:</b>	Isolate area. Keep unnecessary personnel away. Avoid splashing or spraying.
<b>Protective Equipment:</b>	Impervious gloves (rubber, neoprene or nitrile), Long sleeved clothing. Side-shielded safety glasses or chemical splash-proof goggles, face shield Chemical resistant apron and/or rubber boots may be needed.
<b>Containment:</b>	Stop flow of material if safe to do so. Dike area with diatomaceous earth or sand and maximize recovery.
<b>Clean Up:</b>	Pump into a suitable tank or absorb with diatomaceous earth or sand. Sweep up and place into suitable containers for agronomical land application at recommended rates or dispose of in accordance with local/regional/national regulations (See Section 13 of SDS).

<b>SECTION 7. HANDLING AND STORAGE</b>	
<b>Precautions for safe handling:</b>	Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Do not eat, drink or use tobacco products when handling this material. Apply product in open areas. Keep away from children and pets. Do not contaminate feed, seed or any water sources. Launder work clothes frequently and separate from other laundry.
<b>Conditions for safe storage:</b>	Store in a well-ventilated, cool, dry place, away from direct sunlight, sources of intense heat, or where freezing is possible. Do not let product go below 40°F. Store locked up. Inspect all incoming containers before storage, to ensure containers are properly labeled and not damaged. Slightly corrosive to aluminum, zinc, and copper. Non-corrosive to steel, or stainless steel (304 or 316).
<b>Incompatibilities:</b>	Flammable and combustible materials, strong reducing agents (such as ammonium hydroxide), finely powdered metals. Keep away from intense heat or fire.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION			
<b>Component Exposure Limits:</b>	Hydrated Ammonium Calcium Nitrate double salt (Ca.xNH <sub>3</sub> .xHNO <sub>3</sub> )	Not Established	PEL, OSHA
		Not Established	TWA, ACGIH
		Not Established	IDLH, NIOSH
		Not Established	REL, NIOSH
		Not Established	STEL, NIOSH
<b>Engineering Controls:</b>	Provide local exhaust ventilation and wash facilities.		
<b>Personal Protective Equipment:</b>	<p><u>Eyes:</u> Side-shielded safety glasses or chemical splash-proof goggles (where splashing is possible)</p> <p><u>Skin:</u> Impervious gloves (rubber, neoprene or nitrile), long sleeved clothing. Chemically resistant apron is recommended.</p> <p><u>Respiratory:</u> None required for ambient air concentrations (i.e. in the open under normal agronomic conditions) not exceeding occupational exposure limits. Respiratory protection may be required in the event of a spill in an enclosed area. Use a NIOSH/MSHA approved SCBA with full face piece operated in a positive pressure mode.</p>		
<b>General:</b>	Eye wash stations and safety shower required.		

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES			
<b>Appearance:</b>	Clear, colorless Liquid		
<b>Odor:</b>	Odorless	<b>UEL / LEL:</b>	Not Applicable
<b>Odor Threshold:</b>	Not Applicable	<b>Vapor Pressure:</b>	Similar to water
<b>pH:</b>	3.5 to 5.2	<b>Density:</b>	1.44 g/cm <sup>3</sup>
<b>Melting/Freezing Point:</b>	-5 to 0°C (23-32°F)	<b>Solubility:</b>	Water
<b>Boiling Point:</b>	> 104°C (220°F)	<b>Log<sub>ow</sub>:</b>	Not Available
<b>Flash Point:</b>	Not Applicable	<b>Auto Ignition Temp:</b>	Not Applicable
<b>Evaporation Rate:</b>	Similar to water	<b>Decomposition Temp:</b>	Not Available
<b>Flammability (Solid/Gas):</b>	Not Applicable	<b>Viscosity</b>	Not Available

SECTION 10. STABILITY AND REACTIVITY	
<b>Reactivity:</b>	Product may act as an oxidizer, particularly if evaporated to dryness
<b>Chemical Stability:</b>	Stable under normal conditions
<b>Possibility of Hazardous Reactions:</b>	Hazardous polymerization will not occur.
<b>Conditions to avoid:</b>	Avoid exposure to extreme temperatures, contact with incompatible chemicals and all contact with combustible materials. Elevated temperatures may cause containers to rupture.
<b>Incompatible Materials:</b>	Flammable and combustible materials, strong reducing agents (such as ammonium hydroxide), finely powdered metals.
<b>Hazardous Decomposition Products:</b>	Calcium compounds and nitrogen oxides.

<b>SECTION 11. TOXICOLOGICAL INFORMATION</b>	
<b>Acute Toxicity:</b>	LD50 oral (rat): >2000 mg/kg (100% basis)
<b>Likely Routes of Exposure:</b>	Inhalation, ingestion or skin absorption
<b>Symptoms and Signs of Exposure:</b>	<p><u>Eyes</u>: Causes mild irritation. May result in redness, tearing and blurred vision.</p> <p><u>Skin</u>: Causes mild irritation to the skin. May result in redness, itching and pain.</p> <p><u>Ingestion</u> will immediately irritate or burn throat. Symptoms include nausea, abdominal pain, vomiting and diarrhea. Severe overexposure can result in convulsions and collapse. Symptoms occur upon contact and include irritation of mouth, throat and esophagus. The nitrate component may reduce the blood's ability to transport oxygen causing headache, fatigue, dizziness and blue lips and skin (methemoglobinemia). Symptoms may be delayed.</p> <p><u>Inhalation</u> of mist may irritate or burn nose, throat and lungs. Coughing, nausea, headaches and weakness are possible.</p>
<b>Chronic Effects:</b>	Prolonged skin contact may result in dermatitis (inflammation and redness of skin). Repeated ingestion of small amounts may cause weakness, depression, headaches, neurological effects and mental impairment.
<b>Carcinogenic:</b>	IARC: 2A Probably carcinogenic to humans (Nitrates (ingested) under conditions that result in endogenous nitrosation) None of this product's components are listed by ACGIH, OSHA, NIOSH or NTP as carcinogenic.
<b>Mutagenicity:</b>	Not Available
<b>Reproductive Toxicity:</b>	Not Available

<b>SECTION 12. ECOLOGICAL INFORMATION</b>	
<b>Ecotoxicity:</b>	In high concentrations, this product may be harmful to both terrestrial and aquatic plant or animal life.
<b>Other Adverse Effects:</b>	Not harmful to ozone layer
<b>Ecotoxicity:</b>	Not Available

<b>SECTION 13. DISPOSAL CONSIDERATIONS</b>	
<b>General Information:</b>	As packaged, this product is a D001 ignitable waste per 40 CFR 261; applicable to wastes containing this product.
<b>Disposal Instructions:</b>	Agronomical land application at recommended rates or dispose of in accordance with local/regional/national regulations.

**SECTION 14. TRANSPORT INFORMATION**

**This material is not hazardous as defined by 49 CFR 172.101 by the US Department of Transportation**  
49 CFR 172.102 Special Provision 34 specifically removes the commercial grade calcium nitrate double salt (calcium nitrate and ammonium nitrate) from the Hazardous Materials Table 49 CFR 172.101.

<b>Proper Shipping Name:</b>	Not Applicable
<b>Hazard Class:</b>	Not Applicable
<b>UN Identification #:</b>	Not Applicable
<b>Packing Group:</b>	Not Applicable
<b>Required Label(s):</b>	Not Applicable
<b>Emergency Response Guide Number:</b>	Not Applicable
<b>Marine Pollutant:</b>	No

**SECTION 15. REGULATORY INFORMATION**

<b>TSCA Inventory Status</b>	All intentional ingredients listed on the TSCA inventory.
<b>DSCL (EEC) Status</b>	All intentional ingredients listed on the DSCL inventory.
<b>United States – SARA Hazard Category:</b>	This product has been reviewed according to the EPA Hazard Categories promulgated under Sections 311 and 312 of Title III of the Superfund Amendments and Reauthorization Act (SARA) and is considered, under applicable definitions, to meet the following categories:  Fire – No, Pressure – No, Acute – No, Chronic – No, Reactive – No
<b>SARA Title III Information:</b>	This product contains the following substances subject to the reporting requirements of Title III (EPCRA) of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:
Magnesium Nitrate Hexahydrate CAS No. 13446-18-9	CERCLA RQ (pounds): No SARA Reporting, 302: No SARA Reporting, 304: No SARA Reporting, 313: Yes, 1.0% de minimus concentration (N511, Water Dissociable Nitrate)
<b>Federal Insecticide, Fungicide, and Rodenticide Act</b>	This product is not a pesticide.
<b>State Regulations:</b>	Other state regulations may apply. Check individual state requirements.
Magnesium Nitrate Hexahydrate CAS No. 13446-18-9	Appears on one or more of the following state hazardous substance lists: NJ

**SECTION 16. OTHER INFORMATION**

Date of Revision:	12/10/2013, revision prepared in accordance with 29 CFR 1910.1200 Appendix D to meet Global Harmonization Standards.
Disclaimer:	The information contained in this SDS refers only to the specific material designated and does not relate to any process or use with any other materials. This information is based on data believed to be accurate and reliable as of the date hereof. It is intended for use by persons possessing technical knowledge at their own discretion and risk. Because safety standards and regulations are subject to change and because Chemical Dynamics, Inc. has no continuing control over the material, those handling, storing or using the material should satisfy themselves that they have current information regarding the particular way the material is handled, stored or used and that the same is done in accordance with federal, state and local law. No warranty, expressed or implied, and no liability is assumed by Chemical Dynamics, Inc. in conjunction with the use of this information. Nothing herein is to be construed as a recommendation to infringe any patents.