

**SAFETY DATA SHEET**

Dyna Pro PCA



Date Prepared: 9/21/2015

Replaces: All Previous

**SECTION 1. IDENTIFICATION**

Product Name: Dyna Pro PCA  
 Synonyms: PROPCA  
 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**

Pictogram	Signal Word	Hazard Class	Hazard Category	Hazard Statement
	<b>DANGER</b>	Skin Corrosion Eye Damage Corrosive to Metals	Cat 1	Causes severe skin burns and eye damage May be corrosive to metals
		STOT: repeat exposure	Cat 2	May cause damage to central nervous system through prolonged or repeat exposure
<b>Precautionary Statements:</b>	<p><b>Prevention:</b> Wear protective gloves, chemical splash proof goggles, and face protection. Do not breathe vapors, mists or sprays. Use only outdoors or in a well-ventilated area. Wash thoroughly after use. Keep in original container.</p> <p><b>Response:</b> <u>If swallowed:</u> rinse mouth, Do NOT induce vomiting. Immediately call doctor.  <u>If on skin (or hair):</u> Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. Immediately call doctor.  <u>If inhaled:</u> Remove person to fresh air and keep comfortable for breathing. Immediately call doctor.  <u>If in eyes:</u> Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call doctor.                      Get medical advice/attention if you feel unwell.                      Absorb spillage to prevent material damage.</p> <p><b>Storage:</b> Store locked up. Store in a well-ventilated place. Keep container tightly closed. Store in corrosive resistant container (e.g. polypropylene, polyethylene, fiberglass, See Section 7 of SDS).</p> <p><b>Disposal:</b> Dispose of contents/containers in accordance with local/regional/national regulations (See Section 13 of SDS). Containers may be triple rinsed and offered for recycling.</p>			

**SECTION 3. COMPOSITION**

Material	CAS #	EINECS #	%WT
Manganese Gluconate	6485-39-8	229-350-4	18%
Iron Gluconate	34089-81-1	Not assigned	Proprietary blend of materials not classified as hazardous
Magnesium Gluconate	3632-91-5	222-848-2	
Water	7732-18-5	231-791-2	

See product label for guaranteed analysis.

**SECTION 4. FIRST AID MEASURES**

<b>Ingestion:</b>	Rinse mouth. Do NOT induce vomiting. Drink large amounts of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.
<b>Skin Contact:</b>	Take off immediately all contaminated clothing and rinse skin with water/shower. Wash contaminated clothing before reuse. Get medical attention immediately.
<b>Inhalation:</b>	Remove person to fresh air and keep comfortable for breathing. If not breathing, give artificial respiration. Seek prompt medical attention.
<b>Eye Contact:</b>	Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing eyes during transport to hospital.
<b>Acute Exposure Symptoms:</b>	Harmful if swallowed or inhaled. Immediately seek medical attention. This product is corrosive to all tissues with which it comes in contact. Contact with skin does not normally cause immediate irritation but prolonged contact may result in redness, swelling, skin burns and severe damage. Inhalation of the vapor or mist can cause eye, nose, throat, and respiratory irritation or coughing. When ingested, it can produce nausea, vomiting, abdominal pain, diarrhea, and irritation or burns of the oropharyngeal mucosa, esophagus, and stomach.
<b>Chronic Exposure Symptoms:</b>	Manganese may lead to neurotoxicity that resembles Parkinson disease. These patients may have bradykinesia, resting tremor, psychiatric disturbances, and shuffling gait.

**SECTION 5. FIRE FIGHTING MEASURES**

<b>Extinguishing Media:</b>	This product is non-flammable. Use appropriate media for surrounding fire. Cool containers with water spray to avoid rupture due to thermal expansion.
<b>Specific Hazards:</b>	This product is an aqueous mixture and is not flammable. If material is exposed to prolonged heat in a fire, material may release oxides of carbon, sulfur, nitrogen, manganese, magnesium and iron. For safety, avoid water spray with full jet to prevent spread of product. Exposure to metals can produce highly flammable hydrogen gas.
<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: 3, Fire: 0, Reactivity: 0

<b>SECTION 6. ACCIDENTAL RELEASE MEASURES</b>	
<b>Precautions:</b>	Corrosive liquid. Isolate area. Keep unnecessary personnel away. Avoid splashing or spraying. Do not touch or walk through spilled material.
<b>Protective Equipment:</b>	Impervious gloves (rubber, neoprene or nitrile), chemical resistant suit, chemical splash-proof goggles, face shield. Chemical resistant apron and/or rubber boots may be needed. Use NIOSH approved respirator if vapors or mists exceed applicable concentration limits.
<b>Containment:</b>	Stop flow of material if safe to do so. Dike area with diatomaceous earth or sand and maximize recovery. Prevent spillage from entering drains or open bodies of water. Any release to the environment may be subject to reporting requirements.
<b>Clean Up:</b>	Pump into a suitable tank or absorb with diatomaceous earth or sand. Residue can be neutralized slowly with lime. Recover and dispose of residue. 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>	Open containers carefully. 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. When diluting always pour product into water and not vice versa
<b>Conditions for safe storage:</b>	Store locked up. Store in a well-ventilated, cool, dry place, away from sources of intense heat, or where freezing is possible. Keep away from incompatible materials. Large storage tanks should have secondary containment and electrically grounded. Polyethylene, polypropylene and fiberglass are acceptable materials for storage containers. Reacts with metals producing highly flammable hydrogen gas. Tanks should be vented and painted white or in light heat-reflecting colors. Ensure that all pumps, valves, meters, gaskets, etc., are of compatible materials. Keep containers tightly closed when not in use. Do not let product go below 35°F. Inspect all incoming containers before storage, to ensure containers are properly labeled and not damaged.
<b>Incompatibilities:</b>	Strong oxidants, strong bases, metals, water reactive materials.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION			
<b>Component Exposure Limits:</b>	Manganese Gluconate	5 mg/m <sup>3</sup>	PEL, OSHA (as Mn compounds)
		Not Established	STEL, OSHA
		0.2 mg/m <sup>3</sup>	TLV, ACGIH (as Mn compounds)
		500 mg/m <sup>3</sup>	IDLH, NIOSH (as Mn)
		1 mg/m <sup>3</sup>	TWA, NIOSH (as Mn)
		3 mg/m <sup>3</sup>	STEL, NIOSH (as Mn)
	Iron Gluconate	1 mg/m <sup>3</sup>	PEL, OSHA (Iron Soluble Salts, as Fe)
		1 mg/m <sup>3</sup>	TWA, ACGIH (Iron Soluble Salts, as Fe)
		Not Established	IDLH, NIOSH
		1 mg/m <sup>3</sup>	REL, NIOSH (Iron Soluble Salts, as Fe)
		Not Established	STEL, NIOSH
	Magnesium Gluconate	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> 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 recommended. Good industrial hygiene practices should be followed, such as, washing thoroughly after handling and before eating or drinking.		

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES			
<b>Appearance:</b>	Dark, Opaque liquid		
<b>Odor:</b>	Slight sweet/rust odor	<b>UEL / LEL:</b>	Not Applicable
<b>Odor Threshold:</b>	Not Available	<b>Vapor Pressure:</b>	Similar to water
<b>pH:</b>	1.0 to 2.0	<b>Density:</b>	1.37 to 1.40 g/cm <sup>3</sup>
<b>Melting/Freezing Point:</b>	< 0°C (32°F)	<b>Solubility:</b>	Water
<b>Boiling Point:</b>	> 100°C (212°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>	Stable
<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. Elevated temperatures may cause containers to rupture. Cold temperatures may cause product to salt out.
<b>Incompatible Materials:</b>	Water reactive materials, strong oxidizers.
<b>Hazardous Decomposition Products:</b>	Manganese, iron and magnesium compounds, sulfur oxides and carbon oxides

SECTION 11. TOXICOLOGICAL INFORMATION	
<b>Acute Toxicity:</b>	Manganese Gluconate: LD50 oral (rat) 5850 mg/kg Iron Gluconate: LD50 oral (rat): 4500 mg/kg Magnesium Gluconate: LD50 Intravenous (mouse): 321 mg/kg
<b>Likely Routes of Exposure:</b>	Inhalation, ingestion or skin absorption
<b>Symptoms and Signs of Exposure:</b>	<u>Eyes</u> : Contact causes severe irritation and tissue damage; Eye burns, watering eyes. <u>Skin</u> : Contact with skin does not normally cause immediate irritation. But prolonged contact may result in redness, swelling, skin burns and severe damage. <u>Ingestion</u> : Corrosive if swallowed. Burning, choking, nausea, vomiting, severe pain; Danger of perforation of esophagus and stomach. Neurotoxicity is the primary manifestation of manganese toxicity. Symptoms include develop headaches, dizziness, memory loss, emotional instability, hyperreflexia, and a mild tremor. <u>Inhalation</u> : Severe irritation and burning of the nose, throat and respiratory tract.

<b>Chronic Effects:</b>	<p>Prolonged or repeated overexposures to this product by inhalation or skin or eye contact may result in severe irritation or corrosive effects. The mucus membranes, the respiratory tract and the digestive system are subject to irritation and corrosive effects from chronic exposure. Changes in pulmonary function may occur, along with chronic bronchitis and emphysema.</p> <p>Manganese may lead to neurotoxicity that resembles Parkinson disease. These patients may have bradykinesia, resting tremor, psychiatric disturbances, and shuffling gait. Also, chronic excess manganese inhalational exposures may lead to pulmonary inflammation and subsequent reactive airway disease.</p>
<b>Carcinogenic:</b>	None of this product's components are listed by IARC, ACGIH, OSHA, NIOSH or NTP as carcinogenic.
<b>Mutagenicity:</b>	Not Available
<b>Reproductive Toxicity:</b>	Not Available

<b>SECTION 12. ECOLOGICAL INFORMATION</b>	
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<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>	<p>Manganese Gluconate: Not Available. However, for analogous, derived from water soluble manganese compound:</p> <p style="padding-left: 40px;">LC50 Daphnia magna (Water Flea): 15200 ug/L/48 hr; static LC50 Canthocamptus sp (Harpacticoid Copepod): 150 ug/L/48 hr; static LC50 Pimephales promelas (Fathead Minnow): 30600 ug/L/96 hr; flow through</p> <p>Magnesium Glucoheptonate, Iron Glucoheptonate: Not Available</p>

<b>SECTION 13. DISPOSAL CONSIDERATIONS</b>	
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<b>General Information:</b>	As packaged, this product is a D002 corrosive waste per 40 CFR 261; applicable to wastes containing this product.
<b>Disposal Instructions:</b>	Agromical land application at recommended rates or dispose of in accordance with local/regional/national regulations. Containers may be triple rinsed and offered for recycling.

<b>SECTION 14. TRANSPORT INFORMATION</b>	
<b>This material is not hazardous as defined by 49 CFR 172.101 by the US Department of Transportation</b>	
<b>Proper Shipping Name:</b>	Corrosive Liquid, acidic, inorganic, N.O.S. (Ferric Sulfate Solution)
<b>Hazard Class:</b>	8
<b>UN Identification #:</b>	3264
<b>Packing Group:</b>	III
<b>Required Label(s):</b>	Corrosive
<b>Emergency Response Guide Number:</b>	154
<b>Marine Pollutant:</b>	Yes (Manganese)
<b>Special Provisions for Transport</b>	NOTE: Not regulated by the Hazardous Materials Regulations and not subject to placarding when transported by motor vehicle or railcar in packaging constructed of materials that will not react dangerously with or be degraded by the corrosive material. – 49 CFR 173.154(d).

<b>SECTION 15. REGULATORY INFORMATION</b>	
<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 – Yes, 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:
<b>Manganese Gluconate</b>	CERCLA RQ (pounds): No RQ is assigned to this generic or broad class, (Manganese compounds) although the class is a CERCLA hazardous substance. See 50 Federal Register 13456 (April 4, 1985). SARA Reporting, 302: No SARA Reporting, 304: No SARA Reporting, 313: : Yes, 1.0% de minimus concentration (N450, Manganese Compounds)
<b>Iron and Magnesium Gluconate</b>	CERCLA RQ (pounds): No SARA Reporting, 302: No SARA Reporting, 304: No SARA Reporting, 313: No
<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.

**SECTION 16. OTHER INFORMATION**

Date of Revision:	9/21/2015, 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.