SAFETY DATA SHEET

Dyna Zone 5-0-20 ACE	Date Prepared: 5/4/2015	Replaces: All Previous

SECTION 1. IDENTIFICATION

Product Name:	Dyna Zone 5-0-20 ACE
Product Number:	ZON5020ACE
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
	**WARNING**	Skin Irritation Eye Irritation	Cat 2 Cat 2A	Causes skin irritation Causes serious eye irritation

Precautionary Statements:	**Prevention:** Wash thoroughly after handling. Wear protective gloves, chemical splash proof goggles, and face protection. **Response**: <u>If on skin (or hair):</u> Wash with plenty of water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical attention. <u>If in eyes:</u> 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. **Storage**: Keep container tightly closed. **Disposal**: 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

SECTION 3. COMPOSITION

Material	CAS #	EINECS #	%WT
Potassium Thiosulfate	10294-66-3	233-666-9	21%
Potassium Acetate	127-08-2	204-822-2	Proprietary Blend of
Triazone	7098-14-8	230-406-5	Materials not Classified as
Urea	57-13-6	200-315-5	Hazardous
Water	7732-18-5	231-791-2	

See product label for guaranteed analysis.

SECTION 4. FIRST AID MEASURES	
General:	In case of persisting adverse effects consult a physician. Treat symptomatically.
Ingestion:	Rinse mouth. Drink large amounts of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call doctor or Poison Control.
Skin Contact:	Remove contaminated clothing. Wash with soap and water. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention.
Inhalation:	Remove to fresh air and keep at rest in a position comfortable for breathing. Get medical attention for any breathing difficulty.
Eye Contact:	Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Acute Exposure Symptoms:	Irritation to respiratory tract. Irritation or burning sensation to eyes. Prolonged or repeated contact with skin may cause skin irritation. Ingestion of product solution may cause irritation of the gastrointestinal tract to include nausea, vomiting and diarrhea. Potassium thiosulfate is considered to have a low toxicity to humans.
Chronic Exposure Symptoms:	Not available

SECTION 5. FIRE FIGHTING MEASURES	
Extinguishing Media:	Not Flammable. Use extinguishing media appropriate to surrounding fire. Cool containers with water spray from a distance to avoid rupture from thermal expansion.
Specific Hazards:	This product is an aqueous mixture which will not burn. In a fire, this material may decompose and produce ammonia, sulfur, sulfur oxides and oxides of nitrogen, potassium and carbon. For safety, avoid water spray with full jet to prevent spread of product.
Protective Equipment and Precautions for Fire-Fighters:	Wear self-contained breathing apparatus (SCBA) and full protective gear. Avoid inhaling combustion products. . Equipment should be thoroughly decontaminated after use. If safe to do so, remove containers form path of fire. Do not approach containers suspected to be hot. Fire run-off should be contained to prevent possible environmental damage.
NFPA Rating:	Health: 1, Fire: 0, Reactivity: 0

SECTION 6. ACCIDENTAL RELEASE MEASURES	
Precautions:	Isolate area. Keep unnecessary personnel away. Avoid splashing or spraying.
Protective Equipment:	Impervious gloves (rubber, neoprene or nitrile), Long sleeved clothing. Chemical splash-proof goggles, face shield Chemical resistant apron and/or rubber boots may be needed. Clothing and equipment can be washed or laundered for reuse.
Containment:	Stop flow of material if safe to do so. Dike area with diatomaceous earth or sand and maximize recovery. Avoid infiltration of large quantities into drains, surface water, groundwater and soil. Keep out of "waters of the U.S." because of potential aquatic toxicity.
Clean Up:	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).

SECTION 7. HANDLING AND STORAGE	
Precautions for safe handling:	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.
Conditions for safe storage:	Store in a well-ventilated, cool, dry place, away from sources of intense heat, or where freezing is possible. Wear personal protective equipment when risk of exposure occurs. Store tote and smaller containers out of direct sunlight at moderate temperatures. Keep containers tightly closed when not in use. Do not let product go below 35°F or above 105°F. Inspect all incoming containers before storage, to ensure containers are properly labeled and not damaged. Product solutions have been successfully stored in 304 stainless steel, fiberglass, polypropylene and HD polyethylene. Consult with tank manufacturers to confirm whether a specific resin is acceptable product storage.
Incompatibilities:	This product is not compatible with copper, zinc or their alloys (i.e. bronze, brass, galvanized metals, etc.). These materials of construction should not be used in piping, handling systems or storage containers for this product. Strong oxidizers such as nitrates, nitrites or chlorates can cause explosive mixtures if heated to dryness. Also incompatible with acids, halogens, halocarbons, alcohols, acid chlorides and acid anhydrides. This material reacts violently with acids. Store separately from acids. Keep away from intense heat or fire. Acids will cause the release of sulfur dioxide, a severe respiratory hazard as well as elemental sulfur.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION			
Component Exposure Limits:	Urea	Not Established	PEL, OSHA
		10 mg/m^3	TLV, ACGIH
		Not Established	IDLH, NIOSH
		Not Established	REL, NIOSH
		Not Established	STEL, NIOSH
	Potassium Thiosulfate, Triazone and potassium acetate	Not Established	PEL, OSHA
		Not Established	TWA, ACGIH
		Not Established	IDLH, NIOSH
		Not Established	REL, NIOSH
		Not Established	STEL, NIOSH
Engineering Controls:	Provide local exhaust ventilation and wash facilities.		
Personal Protective Equipment:	Eyes: chemical splash-proof goggles and face shield Skin: Impervious gloves (rubber, neoprene or nitrile), long sleeved clothing and Chemically resistant apron. Respiratory: None required for ambient air concentrations (i.e. in the open under normal agronomic conditions). Use NIOSH approved respirator when dusts, mists, or vapors are present.		
General:	Eye wash stations and safety shower required. Good industrial hygiene practices should be followed, such as, washing thoroughly after handling and before eating or drinking.		

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES			
Appearance:	Clear, pale blue to colorless liquid		
Odor:	Vinegar-like odor	**UEL / LEL:**	Not Applicable
Odor Threshold:	Not Available	**Vapor Pressure:**	Similar to water
pH:	9.8 to 10.5	**Density:**	1.34 to 1.35 g/cm^3
Melting/Freezing Point:	< 0°C (32°F)	**Solubility:**	Water
Boiling Point:	>100°C (212°F)	**Log$_{ow}$:**	Not Available
Flash Point:	Not Applicable	**Auto Ignition Temp:**	Not Applicable
Evaporation Rate:	Not Available	**Decomposition Temp:**	Not Available
Flammability (Solid/Gas):	Not Applicable	**Viscosity**	Not Available

SECTION 10. STABILITY AND REACTIVITY	
Reactivity:	Stable
Chemical Stability:	Stable under normal conditions
Possibility of Hazardous Reactions:	Hazardous polymerization will not occur.
Conditions to avoid:	Heat, strong oxidizers and acids or acidic materials. Elevated temperatures may cause containers to rupture. Do not allow product to go above 105°F.
Incompatible Materials:	Strong oxidizers such as nitrates, nitrites or chlorates can cause explosive mixtures if heated to dryness. Also incompatible with acids, halogens, halocarbons, alcohols, acid chlorides and acid anhydrides. This material reacts violently with acids. Acids will cause the release of sulfur dioxide, a severe respiratory hazard. Acids can also precipitate elemental sulfur. This DynaZone® product is not compatible with copper, zinc, lead, mercury, aluminum, tin, or their alloys (i.e. bronze, brass, galvanized metals, etc.). These materials of construction should not be used in piping, handling systems or storage containers for this product. Also incompatible with acids, halogens, halocarbons, alcohols, acid chlorides and acid anhydrides. This material reacts violently with acids.
Hazardous Decomposition Products:	Heating this product will evolve ammonia. Heating to dryness will cause the production of ammonia, potassium sulfate, sulfur, oxides of carbon, nitrogen, potassium and sulfur. Ammonia (16-25%) may form flammable mixtures with air.

SECTION 11. TOXILOGICAL INFORMATION	
Acute Toxicity:	LD50 oral (rat): > 2000 mg/kg for all components
Likely Routes of Exposure:	Inhalation, ingestion or skin absorption
Symptoms and Signs of Exposure:	Eyes: Contact with the eyes by product mist or solution may cause irritation or a burning sensation. Skin: Prolonged or repeated contact with product mist or solution may cause skin irritation. Absorption is unlikely to occur. Ingestion: Ingestion of product solution may cause irritation of the gastrointestinal tract to include nausea, vomiting and diarrhea. Potassium thiosulfate is considered to have a low toxicity to humans. Inhalation: Inhalation of product mist may cause irritation of the nose, throat and respiratory tract.
Chronic Effects:	None known
Carcinogenetic:	None of this product's components are listed by ACGIH, OSHA, IARC, NIOSH or NTP as carcinogenic.
Mutagenicity:	Not Available
Reproductive Toxicity:	Not Available

SECTION 12. ECOLOGICAL INFORMATION	
Ecotoxicity:	This product is not bioaccumulative.
Other Adverse Effects:	Not harmful to ozone layer
Ecotoxicity:	Potassium Thiosulfate: Static acute 96 hour-LC50 for sheepshead minnow is > 1,000 mg/L. Static acute 96 hour-LC50 for mysid shrimp is 89 mg/L. Urea: LC50 – Poecilia retiulata (guppy): 17,500 mg/L for 96 hrs LC50 (24 hr) Daphnia magna (Water Flea): >10,000 mg/L, freshwater, static Triazone: Not Available Potassium Acetate: EC50 (48 hr) Daphnia similis (Water Flea): 1050 mg/L, Fresh water, Static LC50 (96 hr) Pimephales promelas (Flathead Minnow): 298 mg/L Fresh Water, Renewal
SECTION 13. DISPOSAL CONSIDERATIONS	
General Information:	None
Disposal Instructions:	Agronomical land application at recommended rates or dispose of in accordance with local/regional/national regulations. Dispose of in accordance with product characteristics at time of disposal. Containers may be triple rinsed and offered for recycling.

SECTION 14. TRANSPORT INFORMATION	
This material is hazardous as defined by 49 CFR 172.101 by the US Department of Transportation	
Proper Shipping Name:	Not Applicable
Hazard Class:	Not Applicable
UN Identification #:	Not Applicable
Packing Group:	Not Applicable
Required Label(s):	Not Applicable
Emergency Response Guide Number:	Not Applicable
Marine Pollutant:	No

SECTION 15. REGULATORY INFORMATION	
TSCA Inventory Status	All intentional ingredients listed on the TSCA inventory.
DSCL (EEC) Status	All intentional ingredients listed on the DSCL inventory.
United States – SARA Hazard Category:	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
SARA Title III Information:	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:
Triazone Urea Potassium Thiosulfate Potassium Acetate	CERCLA RQ (pounds): No SARA Reporting, 302: No SARA Reporting, 304: No SARA Reporting, 313: No
Federal Insecticide, Fungicide, and Rodenticide Act	This product is not a pesticide.
State Regulations:	Other state regulations may apply. Check individual state requirements.

SECTION 16. OTHER INFORMATION

Date of Revision:	5/4/2015, 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.