

**SAFETY DATA SHEET**

Dyna Flo 5-15-1

Date Prepared: 6/10/2014

Replaces: All Previous

**SECTION 1. IDENTIFICATION**

Product Name: Dyna Flo 5-15-1  
Synonyms: FLO5151  
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   |
|----------------------------------|------------|-----------|---|
| Monopotassium Phosphate          | 7778-77-0  | 231-913-4 | Proprietary blend of materials not classified as hazardous. |
| Dipotassium Phosphate            | 7758-11-4  | 231-834-5 |   |
| Urea                             | 57-13-6    | 200-315-5 |   |
| Ammonium Polyphosphate           | 68333-79-9 | 269-789-9 |   |
| Potassium Humate                 | 68514-28-3 | 271-030-1 |   |
| Bacillus Species, non-pathogenic | n/a        | n/a       |   |
| Water                            | 7732-18-5  | 231-791-2 |   |

See product label for guaranteed analysis.

**SECTION 4. FIRST AID MEASURES**

|                                   |  |
|-----------------------------------|--|
| <b>General:</b>                   | No specific acute or chronic health effects known. In case of persisting adverse effects consult a physician. Treat symptomatically.                                   |
| <b>Ingestion:</b>                 | Drink large amounts of water. Do not induce vomiting. Call doctor or poison control center.  |
| <b>Skin Contact:</b>              | If on skin (or hair): Take off all contaminated clothing and wash exposed skin with soap and water. If irritation persists, seek medical attention.                    |
| <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>   | May cause slight, transient irritation of eyes and skin. Ingestion may irritate gastrointestinal tract.  |
| <b>Chronic Exposure Symptoms:</b> | No specific chronic health effects known.  |

| <b>SECTION 5. FIRE FIGHTING MEASURES</b>                       |  |
|--|--|
| <b>Extinguishing Media:</b>                                    | Not Flammable. Use extinguishing media appropriate to surrounding fire. Cool containers with water spray from a distance to avoid rupture from thermal expansion.  |
| <b>Specific Hazards:</b>                                       | This product is an aqueous mixture which will not burn. Thermal decomposition can produce ammonia and oxides of nitrogen, carbon, potassium and phosphorous.   |
| <b>Protective Equipment and Precautions for Fire-Fighters:</b> | Due to possible evolution of ammonia, 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. Caution should be exercised in the area of spilled material since solution can cause a slippery condition.   |
| <b>Protective Equipment:</b>                                   | Impervious gloves (rubber, neoprene or nitrile), Long sleeved clothing, Chemical splash-proof goggles. Chemical resistant apron and/or rubber boots may be needed. Clothing and equipment can be washed or laundered for reuse.  |
| <b>Containment:</b>  | 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. If spill could potentially enter any waterway, including intermittent dry creeks, contact the local authorities. In the U.S., contact the US COAST GUARD NATIONAL RESPONSE CENTER toll free number 800-424-8802.   |
| <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>                          | Material has low toxicity; therefore risk of damage is limited in normal handling. Normal handling or minor release is not expected to be hazardous. 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>                            | Aluminum tanks not recommended because of possible pitting. Store in a well-ventilated, cool, dry place, away from direct sunlight, sources of intense heat, or where freezing is possible. Storing this product above 80°F (26°C) can reduce the shelf life. Inspect all incoming containers before storage, to ensure containers are properly labeled and not damaged.   |
| <b>Incompatibilities:</b>                                      | Avoid using containers, pipes and fittings made of aluminum, 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.  |

| SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION |   |                      |             |
|--|---|----------------------|-------------|
| <b>Component Exposure Limits:</b>                  | Mono- and Dipotassium Phosphate, Potassium Humate, ammonium polyphosphate   | Not Established      | PEL, OSHA   |
|  |   | Not Established      | TWA, ACGIH  |
|  |   | Not Established      | IDLH, NIOSH |
|  |   | Not Established      | REL, NIOSH  |
|  |   | Not Established      | STEL, NIOSH |
|  | Urea  | Not Established      | PEL, OSHA   |
|  |   | 10 mg/m <sup>3</sup> | TWA, ACGIH  |
|  |   | Not Established      | IDLH, NIOSH |
|  |   | Not Established      | REL, NIOSH  |
|  |   | Not Established      | STEL, NIOSH |
| <b>Engineering Controls:</b>                       | Unless heated to evolve ammonia or misted by heat, agitation or spraying, natural ventilation should be adequate. Otherwise, provide local exhaust ventilation and wash facilities.   |                      |             |
| <b>Personal Protective Equipment:</b>              | <u>Eyes:</u> Splash-proof chemical goggles<br><u>Skin:</u> Impervious gloves (rubber, neoprene or nitrile). If skin irritation occurs, wear long sleeves. Chemically resistant apron is recommended.<br><u>Respiratory:</u> None required for ambient air concentrations (i.e. in the open under normal agronomic conditions). Use NIOSH approved mist respirator when dusts, mists, or vapors are present. |                      |             |
| <b>General:</b>                                    | Eye wash stations and safety shower recommended.  |                      |             |

| SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES |                     |                            |                                |
|---|---------------------|----------------------------|--------------------------------|
| <b>Appearance:</b>                          | Dark brown liquid   |                            |                                |
| <b>Odor:</b>                                | Slight ammonia odor | <b>UEL / LEL:</b>          | Not Applicable                 |
| <b>Odor Threshold:</b>                      | 17 ppm (ammonia)    | <b>Vapor Pressure:</b>     | Similar to water               |
| <b>pH:</b>                                  | 6.0 to 6.6          | <b>Density:</b>            | 1.18 to 1.19 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>                    | Not Available       | <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>                 | This product is stable under normal ambient conditions of temperature and pressure. Under prolonged storage, precipitation of non-plant food materials can occur. |
| <b>Possibility of Hazardous Reactions:</b> | Hazardous polymerization will not occur.  |
| <b>Conditions to avoid:</b>                | Avoid exposure to extreme temperatures and contact with incompatible materials. Elevated temperatures may cause containers to rupture.                            |

|  |  |
|--|--|
| <b>Incompatible Materials:</b>           | Water reactive materials.<br>Avoid using containers, pipes and fittings made of aluminum, copper, zinc or their alloys (e.g. brass). |
| <b>Hazardous Decomposition Products:</b> | Thermal decomposition can produce ammonia and oxides of nitrogen and carbon.   |

| <b>SECTION 11. TOXICOLOGICAL INFORMATION</b> |   |
|--|---|
| <b>Acute Toxicity:</b>                       | LD50 oral (rat): > 2000 mg/kg for all components  |
| <b>Likely Exposure Routes:</b>               | Contact with eyes, skin, ingestion, inhalation  |
| <b>Symptoms and Signs of Exposure:</b>       | <u>Eyes:</u> Low eye irritation potential. May cause temporary eye irritation. May cause redness and pain.<br><u>Skin:</u> Low skin irritation potential. May cause slight skin irritation.<br><u>Inhalation:</u> Repeated or prolonged inhalation of mists may lead to respiratory irritation.<br><u>Ingestion:</u> Low toxicity. May cause digestive tract irritation, with accompanying nausea, vomiting and diarrhea. |
| <b>Chronic Effects:</b>                      | Not Available   |
| <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> |   |
|---|---|
| <b>Ecotoxicity:</b>                       | Not available for mono- and dipotassium phosphates<br>Urea:<br>LC50 – Poecilia reticulata (guppy): 17,500 mg/L for 96 hrs<br>Ammonium Polyphosphate<br>LC50 (96 hr) Oncorhynchus mykiss: >101 mg/L<br>Slightly toxic to practically non-toxic to aquatic organisms based on the Federal Insecticide Fungicide and Rodenticide Act (FIFRA) acute toxicity ratings. |
| <b>Other Adverse Effects:</b>             | Inorganic phosphates have the potential to increase the growth of freshwater algae, whose eventual death will reduce the available oxygen for aquatic life.<br>Not harmful to ozone layer   |

| <b>SECTION 13. DISPOSAL CONSIDERATIONS</b> |   |
|--|---|
| <b>General Information:</b>                | None  |
| <b>Disposal Instructions:</b>              | Agronomical land application at recommended rates or dispose of in accordance with local/regional/national regulations. |

| <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>  | 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   |
| <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:<br><br>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:   |
| Monopotassium Phosphate<br>CAS No. 7778-77-0,<br>Dipotassium Phosphate<br>CAS No. 7758-11-4<br>Ammonium Polyphosphate CAS No.68333-79-9,<br>Potassium Humate CAS No. 68514-28-3 and<br>Urea CAS No. 57-13-6 | CERCLA RQ (pounds): No<br>SARA Reporting, 302: No<br>SARA Reporting, 304: No<br>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: | 6/10/2014, 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. |