G.K. Chemical Specialties Co. Inc.
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Tel: (416) 261-7182 Fax: (416) 261-5663

SAFETY DATA SHEET (SDS)

PRODUCT NAME: DISH GLO (MECHANICAL DISHWASHING DETERGENT POWDER)	
HEALTH HAZARD RATING:	(3)- HIGH HAZARD NFPA Rating
FLAMMABILITY HAZARD RATING:	(0)- MINIMAL HAZARD
REACTIVITY HAZARD RATING:	(1)- SLIGHT HAZARD
PERSONAL PROTECTION:	B - (Safety glasses, Gloves,)
HAZARD ALERT SIGN:	

SECTION 1 – **IDENTIFICATION**	
PRODUCT IDENTIFIER	
PRODUCT NAME	DISH GLO
MANUFACTURER'S NAME AND ADDRESS **EMERGENCY PHONE NO.**	G.K. Chemical Specialties Co. Inc. 90 Barbados Blvd. Scarborough, Ontario M1J 1K9 (416) 261-7182 / 905 427-7605/ 416-526-4037 CHEMTREC(24 HR EMERGENCY) 1-800-424-9300 International CHEMTREC: 1-703-527-3887
SUPPLIER'S NAME AND ADDRESS **EMERGENCY PHONE NO.**	
CHEMICAL NAME	NOT APPLICABLE
CHEMICAL FAMILY	BASE
TRADE NAME AND SYNONYMS	NOT APPLICABLE
MATERIAL USE	COMMERCIAL, INSTITUTIONAL AND INDUSTRIAL CLEANING

G.K. Chemical Specialties Co. Inc. has compiled the information and recommendations contained in this Safety Data Sheet from sources believed to be reliable and to represent the most reasonable current opinion on the subject when the SDS was prepared. Although reasonable precautions have been taken in the preparation of the data contained herein, it is offered solely for your information, consideration and investigation.

G.K. Chemical Specialties Co. Inc. extends no warranty and assumes no responsibility as to the accuracy of the content or sufficiency of the information and expressly disclaims all liability for reliance thereon. This SDS provides guidelines for the safe handling of this product. It does not and cannot advise on all possible situations, therefore, your specific use of this product should be evaluated to determine if additional precautions are required. Individuals exposed to this product should read and understand this information and be provided pertinent training prior to working with this product.

G.K. Chemical Specialties Co. Inc. assumes no responsibility for personal injury or property damage to vendors, users or third parties caused by the material. Such vendors or users assume all risks associated with the use of the material.

INGREDIENTS. This SDS, under section of Ingredients, contains all ingredients listed under INGREDIENT DISCLOSURE LIST P.C. 1987-2719, 20/1/88 CANADA GAZETTE PART II VOL. 122, No 2 of HAZARDOUS PRODUCT ACT.
Percentage range of concentration of ingredients is expressed as percentage by weight of the total weight of the product. Ingredient List does not necessarily list all ingredients in the formulation and does not necessarily list all ingredient range of concentration, other than ingredients under the Disclosure List.

T.L.V. (units) or Threshold Limit Values refer to the limiting concentrations recommended by the Ministry of Labour. These values were adopted by the American Conference of Governmental Industrial Hygienists (A.C.G.I.H.). The figures refer to time-weighted average concentrations as P.P.M. (V/V) or mg/m^3 for a normal working day or at any time for some materials.

"C.A.S REG. No." means the identification number assigned to a chemical substance by the Chemical Abstracts Service Division of the American Chemical Society.

"LC 50" means the concentration of a substance in air that when administered by means of inhalation over a specified length of time in an animal assay, is expected to cause the death of 50 per cent of a defined animal population.
"LD 50" means the single dose of a substance that, when administered by a defined route in an animal assay, is expected to cause death of 50 per cent of a defined animal population.

FLASH POINT. The minimum temperature at which a substance gives off flammable vapors which in contact with spark or flame will ignite.

NIOSH- National institute for occupational safety and health
STEL- Short term exposure limit
TWA- Time-weighted average
PEL- Permissible exposure limit
ACGIH- American conference of governmental industrial hygienist
OSHA- Occupational safety and health act

SECTION 2 – HAZARD IDENTIFICATION

Dangerous Goods: CLASS E and Class D. DIV. 2B
OSHA HAZARDS: Corrosive material

GHS CLASSIFICATION
Acute Toxicity (oral) – Category 4
Serious Eye Damage –Category 1
Skin Corrosion/Irritation – Sub- Category 1A
Specific target organ toxicity (single exposure)- Category 3 respiratory tract irritation
Metal Corrosion- Category 1

HAZARDOUS SUBSTANCE (HSNO) CLASSIFICATION
Corrosive liquid: CLASS E and CLASS D, DIV 2B

GHS Label Elements, including precautionary statements: Hazard Statements:
Signal word- DANGER

HAZARD STATEMENTS
H314: Causes severe skin burns and eye damage
H318: Causes serious eye damage
H302: Harmful if swallowed
H335- May cause respiratory irritation
H290: May be corrosive to metals

PREVENTION (see also section4-First aid and measures)
P260: Do not breathe dust/ mist
P264: Wash skin thoroughly after handling
P280: Wear protective gloves/ protective clothing/ eye protection/ face protection
P405: Store locked up

RESPONSE
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes: Remove contact lenses if present and easy to do so. Continue rinsing.
P301 + P310: If swallowed: Immediately call a POISON CENTER or doctor/ physician.
P301 + P330 + P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
P304 +P340 + P310: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician
P303 + P361 + P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water. Shower

POTENTIAL HEALTH EFFECTS
INHALATION: If dust is inhaled may be harmful. May Cause respiratory tract irritation.
SKIN: Will cause skin irritation and/ or chemical burns.
EYE: Will cause serious damage
INGESTION: May be fatal if swallowed

P273: Avoid release to the environment.

NOTE: Product is corrosive to Aluminum, Galvanized, Brass and Tin. Avoid prolonged contact with these metals.

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS				
HAZARDOUS INGREDIENTS	**APPROXIMATE CONCENTRATION%**	**C.A.S., N.A. OR U.N. NUMBERS**	**LD50 {SPECIFY SPECIES & ROUTE}**	**LC 50 {SPECIFY SPECIES)**
Sodium Carbonate Anhydrous	25 - 35	497-19-8	Oral(Rat): 4090 mg/kg Dermal (mouse): 2210 mg/kg	
Sodium Hydroxide	5 - 10	1310-73-2	Oral (Rat): 140-340 mg/kg Dermal (Rabbit): 1,350 mg/kg	**TWA: 2 mg/m³**
Sodium metasilicate pentahydrate	35 - 45	10213-79-3	Oral (Rat): 1153 mg/kg Dermal (Rabbit): 250mg/24h	**TWA: 2 mg/m³**
Triphosphoric acid, Sodium salt (1:5)	10 - 15	7758-29-4	Oral(Rat): 3120 mg/kg Dermal (Rabbit): >4,640mg/kg	
Tetrasodium ethylenediamine tetraacetate	<1	64-02-8	Oral (Rat): 3,030 mg/kg Dermal (Rabbit): >5,000mg/kg	
Sodium Gluconate	1 - 3	527-07-1	Oral (Rat): >2000mg/kg	
Sodium Xylene Sulfonate	< 1	1300-72-7	Oral (Rat): >5000 mg/kg Dermal (Rabbit):>5000mg/kg	
Sodium Dichloroisocyanurate, Dihydrate	1 - 3	51580-86-0	Oral (Rat): 735 mg/kg Dermal (Rabbit): >2000mg/kg	
Other non-hazardous ingredients	Balance	Non hazardous		

SECTION 4 – FIRST AID MEASURES	
SKIN CONTACT	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and wash using soap. Get medical attention if necessary.
EYE CONTACT	Immediately hold eyelids open and flush with water for at least 15 minutes. Seek medical attention.
INHALATION	Move casualty to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention if necessary
INGESTION	Harmful if swallowed. Do not induce vomiting. Drink 1 or 2 glasses of water. Seek immediate medical attention. Never give anything by mouth to an unconscious or convulsing person. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs.
NOTES TO PHYSICIAN	Product is corrosive material. Strong Base. Causes respiratory irritation if inhaled. Symptoms may include: Coughing and choking. If *ingested may cause burns or irritation of the lining of the mouth, throat, and gastrointestinal tract. Symptoms may include abdominal pain, vomiting, burns, perforation, bleeding and eventually death.* Corrosive to the eyes and may cause severe damage including blindness. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

SECTION 5 – FIRE-FIGHTING MEASURES	
FLASH POINT (^{0}C)	Nil
FLASH POINT METHOD	Not applicable
AUTOIGNITION TEMPERATURE (^{0}C)	Non-combustible
UPPER FLAMMABLE LIMIT (% VOL.)	Not applicable
LOWER FLAMMABLE LIMIT (% VOL.)	Not applicable
HAZARDOUS COMBUSTION PRODUCTS	Oxides of Phosphorus, Carbon monoxide, Carbon dioxide, Oxides of sodium, nitrogen trichloride, chlorine.
UNUSUAL FIRE/ EXPLOSION HAZARDS	Releases flammable hydrogen gas when reacting with some metals
SENSITIVITY TO MECHANICAL IMPACT	No.
SENSITIVITY TO STATIC DISCHARGE	No
EXTINGUISHING MEDIA	Use extinguishing agents appropriate for the burning material. Use water spray to keep fire-exposed containers cool
SPECIAL FIRE FIGHTING PROCEDURES	Fire fighters should wear full protective clothing, including self-contained breathing equipment.

SECTION 6 – ACCIDENTAL RELEASE MEASURES	
LEAK AND SPILL PROCEDURE	Sweep up spillage and collect in suitable container for disposal. Avoid dust formation
ENVIRONMENTAL PRECAUTIONARY	Prevent entry into sewers or streams. Any release to the environment should be subject to federal or local reporting requirements.
PERSONAL PRECAUTIONARY MEASURES	Wear protective clothing during cleanup. See section 8 for recommendations on the use of personal protective equipment. Avoid breathing dust. Avoid contact with clothing and skin

SECTION 7 – HANDLING AND STORAGE	
HANDLING PROCETURES	Avoid contact with eyes and skin. Avoid ingestion. Use good industrial hygiene practices in handling this product. Keep container closed when not in use.
STORAGE NEEDS	Keep container tightly closed. Keep out of the reach of children. Keep in properly labeled containers.

SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION	
VENTILATION REQUIREMENTS	Good ventilation is recommended. When ACGIH TLV (Threshold Limit Value) is greater than 2 mg/ m^3 as Sodium metasilicate pentahydrate and Sodium Hydroxide provide exhaust ventilation or other engineering controls to keep the airborne concentrations below their respective.
PROTECTIVE EQUIPMENT	Ensure that eyewash stations are proximal to the work-station location. The selection of personal protective equipment will vary depending on the condition of use
EYE/TYPE	Splash goggles, safety glasses
RESPIRATORY/TYPE	Approved dust respirator when airborne concentration exceed exposure limits.
GLOVE/TYPE	Nitrile, Vinyl, Butyl impervious gloves
FOOTWEAR/TYPE	Boots. Chemical resistant and as specified by the workplace
BODY/TYPE	Protective clothing is required. The selection of personal protective equipment will vary depending on the conditions of use.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES	
APPEARANCE – PHYSICAL STATE	White powder
ODOUR	NO ODOUR
ODOUR THRESHOLD (PPM)	Not applicable
PH	12.50 ± 0.5 2% solution
MELTING POINT (^{0}C)	Not applicable
BOILING POINT (^{0}C)	Not applicable
FREEZING POINT (^{0}C)	Not applicable
EVAPORATION RATE	Not applicable
FLAMMABILITY	Not combustible
FLASH POINT (^{0}C)	Not applicable
AUTO IGNITION TEMPERATURE	Not applicable
DECOMPOSITION TEMPERATURE	Not available
VAPOUR DENSITY	Not available
VAPOUR PRESSURE	Not applicable
SOLUBILITY	Soluble in water 15-20 %
VISCOSITY	Not applicable
% VOLATILE BY VOLUME	No data
SPECIFIC GRAVITY	No data

SECTION 10 – STABILITY AND REACTIVITY	
REACTIVITY	Exothermic reaction with incompatible materials
CHEMICAL STABILITY	Stable under normal conditions
POSSIBILITY OF HAZARDOUS REACTIONS	Arise in contact with incompatible materials. Forms flammable and explosive Hydrogen gas through corrosion of some metals.
CONDITIONS TO AVOID	Avoid incompatible materials
INCOMPATIBLE MATERIALS	Avoid contact with strong Acids, Nitrocarbons, halocarbons, Potassium persulfate, Sodium borohydride, Silver nitrate, Acetaldehyde, Hydroquinone, Phosphorus, Acrolein, Acrylonitrile, Maleic anhydride, Cyanogen azide. Also avoid prolonged contact with metals such as Aluminum, Zinc, brass and Tin.
HAZARDOUS DECOMPOSITION PRODUCTS	Oxides of Phosphorous, Carbon dioxide, Carbon monoxide, Oxides of Sodium, Nitrogen Trichloride. chlorine

SECTION 11 –TOXICOLOGICAL INFORMATION	
TOXICITY EFFECTS ON ANIMALS	**For Sodium Carbonate Anhydrous (497-19-8):** Acute Oral Toxicity LD50 (Rat) : 4090 mg/kg. LD50 dermal (Rabbit): 2,210 mg/kg**,** **For Sodium Hydroxide (1310-73-2):** Acute Oral Toxicity LD50 (Rat): 140-340 mg/kg, Acute Dermal Toxicity LD50 (Rabbit): 1,350 mg /kg **For Sodium metasilicate pentahydrate (10213-79-3):** Acute Oral Toxicity LD50 (Rat): 1153 mg/kg. Acute Dermal Toxicity LD50 (Rabbit): 250 mg/kg/ 24 h. **For Triphosphoric acid, Sodium salt (1:5) (7758-29-4):** Acute Oral Toxicity LD50 (Rat): 3,120 mg /kg. Acute Dermal Toxicity LD50 (Rabbit): >4,640 mg/kg. **For Tetrasodium ethylenediamine tetraacetate (64-02-8):** Acute Oral Toxicity LD50 (Rat): 3,030 mg/kg. Acute Dermal Toxicity LD50 (Rabbit): >5,000 mg/kg. **For Sodium gluconate (527-07-1):** Acute Oral Toxicity LD50 (Rat): >2,000 mg/kg. **For Sodium Xylene Sulfonate (1300-72-7):** Acute Oral Toxicity LD50 (Rat): >5,000 mg/kg. Acute Dermal Toxicity LD50 (Rabbit): >5,000 mg/kg.

	For Sodium Dichloroisocyanurate, Dihydrate (51580-86-0): Acute Oral Toxicity LD50 (Rat): 735 mg/kg. Acute Dermal Toxicity LD50 (Rabbit): >2,000 mg/kg.
TOXIC EFFECTS ON HUMANS	**Inhalation**: May cause chemical burns to the respiratory tract, leading to sore throat, coughing, shortness of breath and delayed lung edema. **Ingestion**: May cause circulatory system failure. Causes severe digestive tract burns with abdominal pain, vomiting, and possible death. May cause corrosion and permanent tissue destruction of the esophagus and digestive tract. **Skin contact**: Contact with this corrosive product may cause burns and ulceration **Eye contact**: Causes serious damage
CHRONIC EFFECTS ON HUMANS	Prolonged contact with skin may defat tissue causing dermatitis or skin problems.
CARCINOGENICITY	No evidence
TERATOGENICITY	No data available
MUTAGENICITY	No evidence
REPRODUCTIVE EFFECTS	No evidence

SECTION 12 –ECOLOGICAL INFORMATION	
ECOTOXICITY DATA	**Figures for Sodium Carbonate Anhydrous (497-19-8)** Ecotoxicity in water. Acute toxicity to fish, LC50, L. macrochius: 300 mg/ L/96h. LC50, Pimephales Promelas (Fathead Minnow) (various age groups): 310-1220 mg/L/ 96 h. .Acute toxicity to aquatic invertebrates EC50, Daphnia magna (Water flea): 265 mg/L/48 h. This ingredient is readily degradable in the environment. Not Bioaccumulative. **Figures for Sodium Hydroxide (1310-73-2):** Acute Toxicity to fish: LC50- Gambusia affinis (Mosquito fish) 125 mg/L/96h, LC50 Oncorhynchus mykiss (rainbow trout) 45.4 mg/L/96h Toxicity to daphnia and other aquatic invertebrates: EC50-Daphnia-40 mg/L/48h. **Figures for Sodium metasilicate pentahydrate (10213-79-3)** Ecotoxicity in water (LC50) : Acute toxicity to fish: 2320 ppm/96 hours/ Mosquito fish (Gambusia affinis). Acute toxicity to aquatic invertebrates: 247 ppm/ 96 hours Daphnia magna. Acute toxicity to snail eggs (Lymnea): 632 ppm/ 96 h **Figures for Triphosphoric acid, Sodium salt (1:5) (7758-29-4):** Acute Toxicity to fish, LC50, Leuciscus idus: 1650 mg/ L / 48 h. **Figures for Sodium Gluconate: (527-07-1):** Acute Toxicity to fish, LC50: >1000 mg/L/96h. Acute Toxicity to aquatic invertebrates, EC50, Daphnia magna (Water flea): >500 mg/L/48h. **Figures for Sodium Xylene Sulfonate (1300-72-7):** Acute Toxicity to fish, LC50, Rainbow trout, static test: >1,000 mg/ L /96 h. Acute Toxicity to aquatic invertebrates, EC50, Daphnia magna (Water flea), static test: >1,000 mg /L /48 h. Acute Toxicity to freshwater algae, EC50, static test: 230 mg /L /48 h. Ingredient relatively harmless to aquatic environment. Product readily BIODEGRADABLE. **Figures for Sodium Dichloroisocyanurate Dihydrate (51580-86-0):** Acute Toxicity to fish, LC50, Rainbow trout: 0.22 mg /L /96 h. LC50, Bluegill sunfish: 0.28 mg /L/ 96 h. Acute Toxicity to aquatic invertebrates, EC50, Daphnia magna (Water flea): 0.2 mg /L /48 h. This ingredient is toxic to aquatic environment. Because of the high PH of this product, it would be expected to exhibit moderate toxicity to aquatic organisms.

BIODEGRADABILITY	Does not bioaccumulate. This product will disassociate into ionic form in the aquatic environment. Natural acidity in water and soil and Carbon dioxide will slowly neutralize this product. Volatile organic compounds (VOC): None. A small amount of phosphate may persist or incorporate into biological systems.
PRODUCTS OF DEGRADATION	Not available

SECTION 13 – DISPOSAL CONSIDERATIONS	
WASTE DISPOSAL	Disposal of all wastes must be done in accordance with municipal, provincial and federal regulations. This product is hazardous to the aquatic environment in large volumes. Keep out of waterways.
INFORMATION ON SAFE HANDLING FOR DISPOSAL INCLUDING ANY CONTAMINATED PACKAGING	Suitable waste facility.

SECTION 14 – TRANSPORT INFORMATION	
UN NUMBER	1759
UN PROPER SHIPPING NAME	CORROSIVE SOLID, N.O.S (Mixture of Sodium Carbonate, Sodium Hydroxide, Sodium metasilicate pentahydrate)
TRANSPORT HAZARD CLASS	CLASS: 8 (CORROSIVE)
PACKAGING GROUP	III
ENVIRONMENTAL HAZARDS	YES
TRANSPORT IN BULK, if applicable	NOT AVAILABLE
SPECIAL PRECAUTIONS	Guide to Canadian Transportation/ Emergency Response Guidebook (ERG): # 154

SECTION 15 – REGULATORY INFORMATION	
SAFETY HEALTH & ENVIRONMENTAL REGULATIONS SPECIFIC TO THE PRODUCT	U.S. TSCA inventory Status: All components of this product are either on the Toxic Substances Control Act (TSCA) INVENTORY List or exempt. Canadian DSL Inventory Status: All components of this product are either on the Domestic Substances List (DSL) or the Non-Domestic Substances List (NDSL) or exempt.

SECTION 16 – OTHER INFORMATION	
PREPARED BY:	Gus Kaklamanos - Chemist
TELEPHONE NO.:	416-261-7182
DATE OF THE LATEST REVISION OF SDS:	October 2, 2017

NOTE: A lot of the information provided in this SDS may refer to very large or special usage of the product. The basic purpose of this product is to be used as a cleaner, where quantities stored and used at any time by various users are very small.