KRETUS®

Safety Data Sheet

SECTION 1: IDENTIFICATION

Product Name: **KRETUS® Poly ESD Colorant**

Recommended Use: For professional use only.

Manufacturer: Kretus, 1055 W. Struck Ave., Orange, CA 92867

Telephone: (714) 694-2061

24 Hour Emergency Telephone Number: (800) 255-3924 (CHEMTEL)

Emergency telephone numbers are to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure, or accident involving chemicals. All non-emergency questions should be directed to customer service.
Comments: To the best of our knowledge, this Safety Data Sheet conforms to the requirements of US OSHA 29 CFR1910.1200, 91/155/EEC.

SECTION 2: HAZARD IDENTIFICATION

Emergency Overview: May cause sensitization by skin contact. Harmful to aquatic organisms, may cause long- term adverse effects in the aquatic environment.

WARNING
May cause an allergic skin reaction. Harmful to aquatic life with long-lasting effects.

Prevention
Avoid breathing dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection.

Response
IF ON SKIN (or hair), Remove/take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs, get medical advice/attention. Take off contaminated clothing and wash before reuse.
IF INHALED, remove victim to fresh air and keep at rest in a position comfortable for breathing.
IF SWALLOWED, immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting.

IF IN EYES, rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice/attention.
In case of fire, use carbon dioxide, dry chemical or alcohol-resistant foam for extinction.

Storage: Keep container tightly closed and locked in a cool, well-ventilated place.

Disposal: Dispose of contents/container to an approved waste disposal plant in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other Information: No data available.

Carcinogenicity: No carcinogenic substances as defined by IARC, NTP and/or OSHA.

See Section 12 for Ecological Information.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

Chemical Name	CAS No.	Concentration (% by Weight)	Comments
Aspartic Acid, N, N'-(methylenedi-4,1-cyclohexanediyl)bis-, 1,1',4,4'-tetraethyl ester	CAS 136210-30-5	40-50	None.
Titanium Dioxide	CAS 13463-67-7	50-60	Dispersed in liquid.

SECTION 4: FIRST-AID MEASURES

Contact with Eyes
Flush eyes with plenty of lukewarm water. Use fingers to ensure that eyelids are separated and the eye is being irrigated. Get medical attention.

Contact with Skin
Wash wash affected areas with soap and water. Immediately remove contaminated clothing and shoes. Get medical attention if irritation develops and persists. Thoroughly clean shoes before reuse. Wash clothing and other apparel before reuse.

Inhalation
Remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.

Ingestion
Do not induce vomiting unless directed to do so by medical personnel. Get medical attention.

SECTION 5: FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Use carbon dioxide, foam, and dry chemical. Use water spray to keep fire-exposed containers cool.

Unsuitable Extinguishing Media
High volume water jet.

Unusual Fire and Explosion Hazards
Wear protective clothing and self-contained breathing apparatus to protect against potential toxic and irritating fumes. Cool exposed containers with water spray. Toxic and irritating gases/fumes may be given off during burning or thermal decomposition.

Hazardous Combustion Products
carbon dioxide, carbon monoxide, oxides of nitrogen, and unidentified compounds.

Advice for Fire Fighters
Self-contained breathing apparatus and full protective clothing must be worn in case of fire. Closed container may forcibly rupture under extreme heat. Use cold water spray to cool fire-exposed containers to minimize the risk of rupture. Toxic gases/fumes may be given off during burning or thermal decomposition.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures
Wear appropriate personal protective equipment. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate.

Environmental Precautions
Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains, and sewers. Inform authorities if the product has caused environmental pollution (sewers, drains, waterways or soil).

Methods and Materials for Containment and Clean-up
Cleanup personnel must use appropriate personal protective equipment. Evacuate and keep unnecessary personnel out of spill area. Remove all sources of ignition, including flames, heat, and sparks. Stop leak if without risk. Move containers from spill area. Dike or dam spilled material with non-combustible, absorbent material (e.g., sand, earth, vermiculite or diatomaceous earth) and control further spillage, where possible. Collect and place spilled material in container for proper disposal according to appropriate local, state and federal regulations. Do not allow spilled material or wash water to enter sewers, surface waters or groundwater systems. Use grounded or non-sparking tools and equipment. Wash spill area with soap and water. Dispose any waste according to appropriate local, state, and federal regulations.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe-Handling
Do not breathe vapors or spray mist. Avoid contact with eyes or skin. Avoid contact with clothing. Use only with adequate ventilation and personal protection. Remove contaminated personal protective equipment (PPE), then wash hands and face thoroughly after handling and before eating and drinking. Keep container closed when not in use. Empty containers retain product residue and can be hazardous. Do not get in eyes, on skin or on clothing. Do not ingest. Avoid release to the environment.

Conditions for Safe Storage
Maximum storage temperature is 30°C (86°F). Keep away from food products during use and storage. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled, unapproved or reactive containers. Use appropriate containment to avoid environmental contamination. Personnel education and training in the safe use and handling of this product are required under OSHA Hazard Communication Standard 29 CFR 1910.1200.

Incompatible Materials or Ignition Sources
Hazardous polymerization does not occur. Avoid strong oxidizing agents, acids, isocyanates.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Special Note for Exposure Control: Consult local authorities for further acceptable exposure limits.

Exposure Limits/ Guidelines		
Chemical Name	Result	ACGIH/OSHA
	STELs	None established.
	TWAs	None established.

Aspartic Acid, N, N'-(methylenedi-4,1-cyclohexanediyl)bis-, 1,1',4,4'-tetraethyl ester	PEL	None established.

Engineering Measures/Controls: General dilution and local exhaust as necessary to control airborne vapors, mists, dusts, and thermal decomposition products below appropriate airborne concentration standards and guidelines.

Environmental Exposure Controls: Avoid release to the environment. Construct a dike to prevent spreading of spills.

Hygiene Measures: Wash hands, forearms and face thoroughly after handling chemical products, before eating and drinking, smoking or using the lavatory and at the end of the working period. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protective Equipment
Respiratory: In case of inadequate ventilation, wear respiratory protection. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Use positive pressure supplied air respirator when airborne concentrations are not known, when airborne solvent levels are 10 times the appropriate TLV, and when spraying is performed or product is applied by aerosol in a confined space or area with limited ventilation. If respirators are used, a program should be instituted to assure compliance with OSHA Standard 63 FR 1152, January 8, 1998. Contact health and safety professional or manufacturer for specific information.

Eye/Face: Use chemical resistant goggles. Chemical safety goggles in combination with a full face shield must be used if a splash hazard exists.

Hands: Use permeation resistant gloves such as butyl rubber, nitrile rubber, or neoprene.

Skin/Body: Wear rubber or plastic apron and permeation resistant clothing, chemical-resistant gloves, and long-sleeved shirts, and pants. Remove and wash contaminated clothing before re-use.

General Industrial Hygiene Considerations: Keep away from food and drink. Wash hands and face after use. Educate and train workers in the safe use and handling of this product. Emergency showers and eye wash stations should be available.

Key to Abbreviations
ACGIH = American Conference of Governmental Industrial Hygiene NIOSH = National Institute of Occupational Safety and Health OSHA = Occupational Safety and Health Administration
MSHA = Mine Safety and Health Administration
TWA = Time-Weighted Averages are based on 8h/day 40hr/week exposures
STEL = Short Term Exposure Limits are based on 15 minute exposures

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Liquid pigment dispersion
Odor	Slight odor
Odor Threshold	No data available
pH	No data available
Melting/Freezing Point	No data available
Initial Boiling Point and Boiling Range	185°C
Flash Point	100°C ca
Evaporation Rate	No data available
Flammability	No data available
Upper/Lower Flammability or Explosive Limits	No data available
Auto-ignition Temperature	No data available
Vapor Pressure	No data available

Vapor Density	No data available
Specific Gravity	1.80
Solubility(ies)	Insoluble in water
Partition Coefficient: n-octanol/water	No data available
Auto-ignition Temperature	No data available
Decomposition Temperature	No data available
Viscosity	No data available
VOC (Volatile Organic Compounds)	<100 g/L
NVW	100% ca

SECTION 10: STABILITY AND REACTIVITY

Chemical Stability: Stable

Possibility of Hazardous Reactions: Hazardous polymerization will not occur.

Conditions to Avoid: Extreme heat.

Incompatible Materials: Strong oxidizing agents, acids, and isocyanates.

Hazardous Decomposition Products: Carbon dioxide, carbon monoxide, oxides of nitrogen, other undetermined compounds.

SECTION 11: TOXICOLOGICAL INFORMATION

ACUTE TOXICITY
LD50 Oral Rat >2,000 mg/kg
LC50 Inhalation Rat >4,224 mg/l, 4h LD50 Dermal Rat >2,000 mg/kg

IMMEDIATE (ACUTE) EFFECTS
Skin Corrosion/Irritation (Rabbit, 24h): None
Skin Sensitization (Guinea Pig): Positive
Carcinogenicity: OSHA Not Listed. IARC Not Listed. NTP Not Listed.

SECTION 12: ECOLOGICAL INFORMATION

Toxicity:
Acute Toxicity to Fish: LC50 66 mg/l (Zebra Fish, 96h), LC50 88.6 mg/l (Water Flea, 96h); Acute Toxicity to algae: ErC50 113 mg/l.

Persistence and Degradability: Not readily degradable.

Bioaccumulative Potential: Bioaccumulation ca. 1.872 BCF.

Other Adverse Effects: Toxicity to terrestrial Plants: EC50 ≥100 mg/kg, 14d)

Other Information: Toxicity to Microorganisms: EC 50: 3,110 mg/l (bacteria, 3 h).

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Treatment Methods: Dispose in accordance with Federal, State, and Local laws and regulations. The generation of waste should be avoided or minimized wherever possible. Empty containers should be taken to an approved waste handling site for recycling or disposal. Incineration or landfill should only be considered when recycling is not feasible. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Empty Container Precautions: Do not heat or cut container with electric or gas torch. Recondition or dispose of empty container in accordance with governmental laws and regulations. Do not reuse empty container without proper cleaning. Label precautions also apply to this container when empty.

SECTION 14: TRANSPORT INFORMATION

	UN Number	UN Proper Shipping Name	Transport Hazard Class(es)	Packing Group	Environmental Hazards
DOT	Not regulated	Not regulated	Not regulated	Not regulated	Harmful to aquatic life with long-lasting effects.
IMO/IMDG	Not regulated	Not regulated	Not regulated	Not regulated	Harmful to aquatic life with long-lasting effects.
IATA/CAO	Not regulated	Not regulated	Not regulated	Not regulated	Harmful to aquatic life with long-lasting effects.

Special Precautions for User: None Known.
Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code

SECTION 15: REGULATORY INFORMATION

Safety and Environmental Regulations/ Legislation Specific for the Substance or Mixture

State Right to Know

Component	CAS	MA	NJ	PA
Aspartic Acid, N, N'-(methylenedi-4,1-cyclohexanediyl) bis-, 1,1',4,4'-tetraethyl ester	136210-30-5	136210-·-5	136210-30-5	136210-30-5

Inventory

Component	CAS	Inventories
Aspartic Acid, N, N'-(methylenedi-4,1-cyclohexanediyl) bis-, 1,1',4,4'-tetraethyl ester	136210-30-5	TSCA, DSL, EINECS/ELINCS, AICS, TECSC, HSNO, NCSR, KECI

United States
Environment
U.S. – CERCLA/SARA – Hazardous Substances and their Reportable Quantities: None. U.S. – SARA – Section 311/312 Hazard Categories: None.
U.S. – CERCLA/SARA – Section 302 Extremely Hazardous Substances TPQs: None U.S. – CERCLA/SARA – Section 313 – Emissions Reporting: None
U.S. – CERCLA/SARA – Section 313 – PBT Chemical Listing: None

United States – California
Environment
U.S. – California – Proposition 65 – Carcinogens List: None
U.S. – California – Proposition 65 – Developmental Toxicity: None
U.S. – California – Proposition 65 – Maximum Allowable Dose Levels (MADL): None U.S. – California – Proposition

65 – No Significant Risk Levels (NSRL): None
U.S. – California – Proposition 65 – Reproductive Toxicity – Female: None
U.S. – California – Proposition 65 – Reproductive Toxicity – Male: None

SECTION 16: OTHER INFORMATION

Personal Protection: Safety goggles, neoprene rubber gloves, vapor respirator

Full text of Hazardous "H" Warnings:
H302 Harmful if swallowed.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H335 May cause respiratory irritation.
H412 Harmful to aquatic life with long-lasting effects.

Full text of "R" Phrases:
R22 Harmful if swallowed.
R37/38 Irritating to respiratory system and skin.
R41 Risk of serious damage to eyes.
R43 May cause sensitization by skin contact.
R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment

Prepared by Kretus, Inc.

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Revision Note Reformatting

Disclaimer
The information and recommendations presented herein are accurate to the best of our knowledge. User must conduct their own tests to determine the suitability of these products for their particular purposes and usage. Because of numerous factors affecting results, KRETUS® and its affiliation makes no warranty of any kind, express or implied, including those of merchantability and fitness for purpose, other than material conforms to our applicable current specifications. KRETUS® assumes no legal responsibility for use or reliance on the information contained in this safety data sheet.