KRETUS®

Safety Data Sheet

SECTION 1: IDENTIFICATION

Product Name: KRETUS® Aliphatic MC Gloss, Low Gloss

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

Classification of the substance or mixture
Summary of Hazard in an Emergency Situation

Liquid
Does not mix with water
Harmful by inhalation
May cause SENSITISATION by inhalation
May cause SENSITISATION by skin contact.

Signal Word: DANGER

Hazard Statements:

H334 – May cause allergy or asthma symptoms or breathing difficulties if inhaled
H332 – Harmful if inhaled
H317 – May cause an allergic skin reaction.

Precautionary statements Prevention

P271- Use only outdoors or in a well-ventilated area.
P280- Wear protective gloves/protective clothing/eye protection/face protection
P284- (in case of inadequate ventilation) wear respiratory protection
P261- Avoid breathing mist/vapours/spray
P272- Contaminated work clothing should not be allowed out of the workplace

Precautionary statements Response
P321- Specific treatment (see advice on this label)
P342+P311- If experiencing respiratory symptoms, Call a POISON CENTER/doctor/physician/first aider
P302+P352- IF ON SKIN: Wash with plenty of water and soap.
P312- Call a POISON CENTER/doctor/physician/first aider/if you feel unwell.
P333+P313- If skin irritation or rash occurs, get medical advice/attention
P362+P364- Take off contaminated clothing and wash it before reuse.
P304+P340- IF INHALED: Remove person to fresh air and keep comfortable for breathing

Precautinary statements Storage
Not Applicable

Precautionary statements Disposal
P501- Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation

Health Hazards
Inhaled- Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may be harmful. The material is not thought to produce respiratory irritation (as classified by EC Directives using animal models). Nevertheless inhalation of vapours, fumes or aerosols, especially for prolonged periods, may produce respiratory discomfort and occasionally distress.
Ingestion- The material is not thought to produce adverse health effects following ingestion (as classified by EC Directives using animal models). Nevertheless, adverse systemic effects have been produced following exposure of animals by at least one other route and good hygiene practice requires that exposure be kept to a minimum.
Skin Contact- Limited evidence exists, or practical experience predicts, that the material either produces inflammation of the skin in a substantial number of individuals following direct contact, and/or produces significant inflammation when applied to the healthy intact skin of animals, for up to four hours, such inflammation being present twenty-four hours or more after the end of the exposure period. Skin irritation may also be present after prolonged or repeated exposure; this may result in a form of contact dermatitis (nonallergic). The dermatitis is often characterized by skin redness (erythema) and swelling (oedema) which may progress to blistering (vesiculation), scaling and thickening of the epidermis. At the microscopic level there may be intercellular oedema of the spongy layer of the skin (spongiosis) and intracellular oedema of the epidermis. Open cuts abraded or irritated skin should not be exposed to this material Entry into the blood-stream through, for example, cuts, abrasions, puncture wounds or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.
Eye- Although the liquid is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterized by tearing or conjunctival redness (as with windburn).
Chronic- Practical evidence shows that inhalation of the material can induce a sensitization reaction in a substantial number of individuals at a greater frequency than would be expected from the response of a normal population. Pulmonary sensitization, resulting in hyperactive airway dysfunction and pulmonary allergy may be accompanied by fatigue, malaise, and aching. Significant symptoms of exposure may persist for extended periods, even after exposure ceases. Symptoms can be activated by a variety of nonspecific environmental stimuli such as automobile exhaust,

perfumes, and passive smoking. Practical experience shows that skin contact with the material is capable either of inducing a sensitization reaction in a substantial number of individuals, and/or of producing a positive response in experimental animals.

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.

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)
Hexamethylene Diisocyanate Polymer	28182-81-2	≥ 99.6
Hexamethylene Diisocyante	822-06-0	≤ 0.4

SECTION 4: FIRST-AID MEASURES

Contact with Eyes

Wash out immediately with water. If irritation continues, seek medical attention. Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

Contact with Skin

Immediately remove all contaminated clothing, including footwear. Flush skin and hair with running water (and soap if available). Seek medical attention in event of irritation.

Inhalation

If fumes or combustion products are inhaled remove from contaminated area. Lay patient down. Keep warm and rested. Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures. Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. Transport to hospital or doctor.

Ingestion

Immediately give a glass of water. First aid is not generally required. If in doubt, contact a Poisons Information Center or a doctor.

SECTION 5: FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Foam
Dry chemical powder
BCF (where regulations permit)
Carbon Dioxide
Water spray or fog- large fires only

Special Risks

None Known

Advice for firefighters
Alert fire brigade and tell them location and nature of hazard. Wear full body protective clothing with breathing apparatus. Prevent, by any means available, spillage from entering drains or water course. Use water delivered as a fine spray to control fire and cool adjacent area. Avoid spraying water onto liquid pools. DO NOT approach containers suspected to be hot. Cool fire exposed containers with water spray from a protected location. If safe to do so, remove containers from path of fire.

Fire/Explosion Hazard
Combustible. Slight fire hazard when exposed to heat or flame. Heating may cause expansion or decomposition leading to violent rupture of containers. On combustion, may emit irritating/toxic fumes. May emit acrid smoke. Mists containing combustible materials may be explosive. May emit poisonous fumes. May emit corrosive fumes.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures
For Non-Emergency Personnel:
See Section 8

Environmental Precautions:
See section 12

Methods and Materials for Containment and Clean-up:
Minor Spills- Remove all ignition sources. Clean up all spills immediately. Avoid breathing vapors and contact with skin and eyes. Control personal contact with the substance, by using protective equipment. Contain and absorb spill with sand, earth, inert material, or vermiculite. Wipe up. Place in a suitable, labelled container for waste disposal.
Major Spills- Clear area of personnel and move upwind. Alert Fire Brigade and tell them location and nature of hazard. Wear breathing apparatus plus protective gloves. Prevent, by any means available, spillage from entering drains or water course. No smoking, naked lights, or ignition sources. Increase ventilation. Stop leak if safe to do so. Contain spill with sand, earth, or vermiculite. Collect recoverable product into labelled containers for recycling. Absorb remaining product with sand, earth, or vermiculite. Collect solid residues and seal in labelled drums for disposal. Wash area and prevent runoff into drains. If contamination of drains or waterways occurs, advise emergency services.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe-Handling
Avoid all personal contact, including inhalation. Wear protective clothing when risk of exposure occurs. Use in a well-ventilated area. Prevent concentration in hollows and sumps. DO NOT enter confined spaces until atmosphere has been checked. Avoid smoking, naked lights or ignition sources. Avoid contact with incompatible materials. When handling, DO NOT eat, drink, or smoke. Keep containers securely sealed when not in use. Avoid physical damage to containers. Always wash hands with soap and water after handling. Work clothes should be laundered separately. Use good occupational work practice. Observe manufacturer's storage and handling recommendations contained within this SDS. Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions. DO NOT allow clothing wet with material to stay in contact with skin

Conditions for Safe Storage
Consider storage under inert gas. Store in original containers. Keep containers securely sealed. No smoking, naked lights, or ignition sources. Store in a cool, dry, well-ventilated area. Store away from incompatible materials and foodstuff containers. Protect containers against physical damage and check regularly for leaks. Observe manufacturer's storage and handling recommendations contained within this SDS.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Respiratory protection: Local exhaust ventilation usually required. If risk of overexposure exists, wear approved respirator. Correct fit is essential to obtain adequate protection. Supplied-air type respirator may be required in special circumstances. Correct fit is essential to ensure adequate protection. An approved self-contained breathing apparatus (SCBA) may be required in some situations. Provide adequate ventilation in warehouse or closed storage area. Air contaminants generated in the workplace possess varying 'escape' velocities which, in turn, determine the 'capture velocities' of fresh circulating air required to effectively remove the contaminant.
Eye/face protection: Safety glasses with side shields. Chemical goggles. Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent]
Skin protection: Wear chemical protective gloves, e.g. PVC. Wear safety footwear or safety gumboots, e.g. Rubber
Other Precautions: Overalls. P.V.C apron. Barrier cream. Skin cleansing cream. Eye wash unit.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Light yellow
Odor	Odorless
Odor Threshold	No data available
pH	No data available
Melting/Freezing Point	-24°C
Initial Boiling Point and Boiling Range	No data available
Flash Point	228°C
Evaporation Rate	No data available
Flammability	Not applicable
Upper/Lower Flammability or Explosive Limits	Upper: 9.5% Lower: 0.9%
Auto-ignition Temperature	No data available
Vapor Pressure	0.00246Pa (at 20°C)
Vapor Density	No data available
Relative Density/Specific Gravity	1.16
Solubility(ies)	Immiscible in water
Partition Coefficient: n-octanol/water	9.81
Auto-ignition Temperature	460°C
Decomposition Temperature	250°C
Viscosity	2500±700 (at 25°C)
VOC (Volatile Organic Compounds)	No data available

SECTION 10: STABILITY AND REACTIVITY

Chemical Stability: Unstable in the presence of incompatible materials. Product is considered stable. Hazardous polymerization will not occur.

Chemical Incompatibility: See section 7

Conditions to be avoided: See section 7

Substances to be avoided: See section 7

SECTION 11: TOXICOLOGICAL INFORMATION

After inhalation: Inhalation (rat) LC50: 18500 mg/m3/1h[2] Inhalation (rat) LC50: 390000 mg/m3/4h **[2] Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. Key criteria for the diagnosis of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. A reversible airflow pattern, on spirometry, with the presence of moderate to severe bronchial hyperreactivity on methacholine challenge testing and the lack of minimal lymphocytic inflammation, without eosinophilia, have also been included in the criteria for diagnosis of RADS. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. Industrial bronchitis, on the other hand, is a disorder that occurs as result of exposure due to high concentrations of irritating substance (often particulate in nature) and is completely reversible after exposure ceases. The disorder is characterized by dyspnea, cough and mucus production.
After eye contact: The material may produce moderate eye irritation leading to inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.

After skin contact: Dermal (rabbit) LD50: >5000 mg/kg*[2] The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterized by skin redness (erythema) and swelling the epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis.
After ingestion: Oral (rat) LD50: >10000 mg/kg*[2]

SECTION 12: ECOLOGICAL INFORMATION

No environmental hazard is anticipated provided that the material is handled and disposed of with due care and attention.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste should be disposed of according to local, state, and federal regulations. Chemical residues are generally classified as special waste, and as such are covered by regulations which vary according to location. Contact your local waste disposal authority for advice or pass to a chemical disposal company. Dispose of containers with care.

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	NOT REGULATED
IMO/IMDG	NOT REGULATED	NOT REGULATED	NOT REGULATED	NOT REGULATED	NOT REGULATED
IATA/CAO	NOT REGULATED	NOT REGULATED	NOT REGULATED	NOT REGULATED	NOT REGULATED

Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code.

SECTION 15: REGULATORY INFORMATION

National Inventory Status

Australia-AIIC – Yes
Australia-non industrial use- No
Canada-DSL-Yes
Canada-NDSL-NO

Australia - AIIC Yes
Australia - Non-Industrial Use No (hexamethylene diisocyanate polymer; hexamethylene diisocyanate)
Canada - DSL Yes
Canada - NDSL No (hexamethylene diisocyanate polymer; hexamethylene diisocyanate)
China - IECSC Yes
Europe - EINEC / ELINCS / NLP Yes
Japan - ENCS Yes
Korea - KECI Yes
New Zealand - NZIoC Yes
Philippines - PICCS Yes
USA - TSCA Yes
Taiwan - TCSI Yes
Mexico - INSQ No (hexamethylene diisocyanate polymer)
Vietnam - NCI Yes
Russia - ARIPS Yes
Legend:
Yes = All CAS declared ingredients are on the inventory
No = One or more of the CAS listed ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)

SECTION 16: OTHER INFORMATION

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

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.