

SECTION 1 – PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: HCAF-550 Part A

PRODUCT USE: Thermal-cure, anti-fog coating for plastic surfaces. Mix equal parts by weight with HCAF-550 Part B.

MANUFACTURER: Exxene Corporation, 5939 Holly Road, Corpus Christi, TX 78412, 1-361-991-8391

EMERGENCY: Call (01) 361-991-8391

SECTION 2 – HAZARDS IDENTIFICATION

GHS CLASSIFICATION

Health	Environmental	Physical
Acute toxicity, inhalation Serious eye damage/eye irritation Specific target organ toxicity, single exposure Respiratory Sensitization Skin Sensitization	Acute toxicity: Not applicable Chronic toxicity: Not applicable	Flammable liquids Category 2
Category 4 Category 2A Category 3 Category 1 Category 1		

GHS LABEL:



Signal Word: DANGER

WHMIS CLASSIFICATION: Class B, Division 2
Class D, Division 1, Subdivision A
Class D, Division 2, Subdivision B

Hazard Statements	Precautionary Statements
H225 Highly Flammable liquid and vapour. H317 May cause an allergic skin reaction. H319 Causes serious eye irritation. H332 Harmful if inhaled. H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. H336 May cause drowsiness or dizziness.	P210 Keep away from heat/sparks/open flames/hot surfaces. — No smoking. P241 Use explosion-proof electrical, ventilating, mixing, handling, and lighting equipment. P243 Take precautionary measures against static discharge. P261 Avoid breathing dust/fume/gas/mist/vapours/spray. P280 Wear protective gloves/protective clothing/eye protection/face protection. P285 In case of inadequate ventilation wear respiratory protection. P370 + P378 In case of fire: Use dry chemical or carbon dioxide for extinction. P301 + P310 IF SWALLOWED: 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. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P304 + P340 IF INHALED: Remove victim to fresh air and Keep at rest in a position comfortable for breathing. P312 Call a POISON CENTER or doctor/physician if you feel unwell. P342 + P311 IF experiencing respiratory symptoms: call a POISON CENTER or doctor/physician. P403 + P233 Store in a well-ventilated place. Keep container tightly closed. P501 Dispose of contents/container according to local and national material disposal regulations.

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS#	Concentration, %
Ethyl Acetate	141-78-6	> 20
Isobutyl Acetate	110-19-0	< 15
Hexamethylene-diisocyanate- preolymer	28182-81-2	< 65
Hexamethylene-diisocyanate - monomer	822-06-0	< 0.1%

SECTION 4 – FIRST AID MEASURES

Contact with eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical attention. Take SDS.

Skin contact: Remove contaminated clothing and shoes. Wash with plenty of soap and water. May cause irritation and possible allergic sensitivity with repeated contact. Seek medical attention. Take this SDS.

Inhalation: Remove the victim to fresh air. Monitor respiratory function. If there is breathing difficulty, provide oxygen. If necessary, give artificial respiration. Seek medical attention. Take this SDS.

Ingestion: Rinse mouth of victim with plenty of water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Seek medical attention; symptomatic and supportive therapy as needed. Following severe exposure medical follow-up should be monitored for at least 48 hours. Take this SDS.

SECTION 5 – FIREFIGHTING MEASURES

Suitable Extinguishing Media: Water spray, alcohol resistant foam, dry chemical or carbon dioxide

Unsuitable Extinguishing Media:

Exposure Hazards: Flammable product. Fire may produce irritating and toxic gases. Containers may explode when heated. Vapors may form explosive mixtures with air. Explosion hazard indoors. Material will react with water which produces carbon dioxide gas; a hazardous build-up of pressure could result if contaminated containers are re-sealed.

Combustion Products: Hazardous decomposition products formed under fire conditions: carbon oxides, nitrogen oxides, and hydrogen cyanide.

Advice for firefighters: Use self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing; consider use of unmanned hose holders or monitor nozzles for fighting large fires

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Personal precautions: Clean-up should only be performed by trained personnel. People dealing with a major spill should wear full protective clothing including appropriate respiratory protection. Prevent product spill from entering sewers or waterways. Neutralize small spills with a decontaminant. Use personal protective equipment. Avoid breathing vapors, mists or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low area.

Environmental precautions: Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Methods for cleaning spills: Contain and absorb large spills onto an inert, non-flammable adsorbent carrier (such as earth or sand). Shovel into open-top drums or plastic bags for further decontamination, if necessary. Wash the spill area clean with a liquid decontaminant. Discard any product, waste, container or wrapper available in an appropriate manner as not to harm the environment, according to federal regulations, state and local.

SECTION 7 – HANDLING AND STORAGE

Handling: Avoid contact with skin and eyes. Avoid inhalation with vapor or mist. Use proper personal protective equipment as indicated in Section 8. Use explosion proof equipment. Keep away from ignition sources. Take measures to prevent buildup of electrostatic charge.

Storage: Keep only in original container, in a cool, dry, well ventilated place. Keep away from food. Store locked up. Keep out of reach of children. Avoid static electricity by grounding. Damaged or perforated packages should be emptied. Incompatible with strong oxidizing agents. Containers should be tightly sealed to prevent contamination with foreign materials. Avoid unnecessary contact

SECTION 8 – PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS: Expressed in ppm

Component	ACGIH TLV	ACGIH STEL	OSHA PEL	OSHA STEL
Ethyl Acetate	400	400	400	400
Isobutyl Acetate	150	150	150	150
Hexamethylene-diisocyanate - monomer	0.034 mg/m ³	0.034 mg/m ³	0.005	0.005

Engineering Controls: Provide mechanical ventilation or direct exhaust to the external media. It is recommended safety shower and eye bath available near work site.

Monitoring: Maintain breathing zone airborne concentration below exposure limits.

PERSONAL PROTECTIVE EQUIPMENT (PPE):

Eye Protection: Avoid contact with eyes; wear complete face protection.

Respiratory Protection: Prevent inhalation of the solvent. Use in a well-ventilated location. Ensure airflow and air changes. Use local exhaust ventilation to remove airborne contaminants from employee breathing zone and to keep contaminants below levels listed above. An organic vapor cartridge or fresh air supplied respirator (NIOSH approved) capable of preventing isocyanates exposure is strongly suggested for all applications

Skin Protection: Chemical-resistant gloves and chemical goggles, face-shield, and synthetic apron or coveralls should be used to prevent contact with eyes, skin, or clothing. Wear nitrile or neoprene gloves. Chemical resistant gloves lined with polyethylene offer maximum protection.

Protective Clothing: Protective clothing should be selected and used in accordance with 'Guidelines for the Selection of Chemical Protective Clothing' published by ACGIH.

Other Precautions: Contaminated clothing should be changed and washed before reuse. Eating, drinking and smoking in immediate work area should be prohibited. Wash hands before eating.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance: viscous, colorless liquid
pH: slightly acidic
Melting: -84 °C
Flash Point: -3 °C TCC
Specific Gravity: 1.032 @20°C
Vapor Density: 4 (Air = 1)
Viscosity: < 10 cP @ 25 °C
Auto-ignition Temp: 423 °C
VOC Content: 3 lb/gal

Odor: Sweet/ester
Odor Threshold: 0.2 ppm
Boiling Range: 76.5 °C to 115 °C
Evaporation Rate: 4.2 (n-butyl acetate = 1)
Flammability Limits: LEL: 1.3 %; UEL: 11.5%
Solubility: Ketones, esters; Avoid water.
Vapor Pressure: 97 hPa @ 20°C (68°F)
Decomposition Temperature: not listed
Flammability (GHS Hazard category): 2

SECTION 10 – STABILITY AND REACTIVITY

Stability:	Stable under normal conditions of storage and handling. Reacts slowly with water to produce carbon dioxide which may rupture closed containers. This reaction accelerates at higher temperatures. Polymerization/reaction with water will produce heat, carbond dioxide, and expanding foam.		HMIS	NFPA
		Health	2	2
		Flammability	3	3
		Reactivity	2	2
		Personal Protection	H	
Hazardous decomposition products:	When heated produces acrid and toxic smoke and fumes composed of carbon oxides and peroxides.			
Conditions to avoid:	Ignition sources, flame/heat, high temperatures, moisture/water, and contact with incompatible materials.			
Incompatible materials:	Water, alcohols, and other hydroxyl-bearing materials. Oxidizers. Amines. Strong bases. Metals. Reacts slowly with water to produce carbon dioxide which may rupture closed containers. This reaction accelerates at higher temperatures.			

SECTION 11 – TOXICOLOGICAL INFORMATION

Likely routes of Exposure:	Inhalation, Eye, Skin.
Acute symptoms and effects:	Harmful by inhalation. Use in well ventilated areas. May be irritating to eyes, respiratory system and skin. May cause respiratory and skin sensitization. Repeated inhalation of vapor or aerosol at levels above the occupational exposure limit could cause respiratory sensitization. A hyper-reactive response to even minimal concentrations of diisocyanates may develop in sensitized persons. The onset of the respiratory symptoms may be delayed for several hours after exposure. Do not breathe the vapor or mist. Do not get on skin or clothing. Avoid contact with eyes. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.
Inhalation:	May cause central nervous system disorders with headache, muscle weakness, dizziness and unconsciousness. May cause respiratory irritation with cough and shortness of breath.
Eye contact:	Irritating and may cause damage to eyes with redness and pain
Skin contact:	Irritating to skin with redness, pain and dryness. May be absorbed through skin in harmful amounts.
Ingestion:	May cause gastrointestinal disturbances with nausea, vomiting and diarrhea.
Chronic symptoms and effects:	Skin rash/inflammation. Headache. Gastrointestinal complaints. Repeated or prolonged skin contact may defat the skin and produce irritation and dermatitis. Chronic overexposure to vapors may cause lung damage

Reproductive Effects	Teratogenicity	Mutagenicity	Embryo toxicity	Sensitization to Product	Synergistic Products
No information	None expected	None expected	No information	Yes	No information

Toxicity: LD₅₀ (oral, rats): 5,620 mg/Kg LC₅₀ (inhalation, rat, 4h): 125 mg/m3

SECTION 12 – ECOLOGICAL INFORMATION

Ecotoxicity:	Expected to have low toxicity to aquatic life.
Mobility:	No information.
Degradability:	Expected low persistence and high degradability.
Bioaccumulation:	Expected low bioaccumulative potential in aquatic organisms.

SECTION 13 – WASTE DISPOSAL CONSIDERATIONS

Follow local and national regulations. Consult disposal experts and your regulatory agency. To neutralize the spent solution/gel, use a neutralizing solution of 75% water (any) mixed with 25% isopropyl alcohol. Add enough of this solution to the gelled coating to cover the solids (or an equal volume, if the coating is still liquid). Foaming may occur and it is advised to perform the neutralization with the vessel that contains the Part A inside a larger container in order to capture any foam that is produced during the reaction. Foam may expand the volume of the mixture up to five times its original volume. Stirring while neutralizing can reduce the size of the foam.

SECTION 14 – TRANSPORT INFORMATION

Proper Shipping Name:	Coating Solution
Hazard Class:	3
Secondary Risk:	
UN/NA Number:	1139
Packing Group:	II
Label Required:	Class 3 Flammable Liquid
Marine Pollutant:	No

SECTION 15 – REGULATORY INFORMATION

CERCLA (Superfund) reportable quantity: Ethyl Acetate and Isobutyl Acetate: 5000 lbs; Hexamethylene-diisocyanate – monomer 100 lbs.
Superfund Amendments and Reauthorization Act of 1986 (SARA)
Hazard categories Immediate Hazard – Yes Delayed Hazard – Yes Fire Hazard – Yes Pressure Hazard – No Reactivity Hazard – No

Section 302 extremely hazardous substance Not listed
Section 311/312/313 hazardous chemical Hexamethylene-diisocyanate - monomer

State regulations

Ethyl Acetate and Isobutyl Acetate can be found on the following right to know lists: New Jersey, Pennsylvania, California, and Massachusetts..

Ingredient Listings USA TSCA, Europe EINECS, Canada DSL, Australian AICS, Japan MITI, Korea ECL, Philippines PICCS, China EICSC

SECTION 16 – OTHER INFORMATION

E-mail address: info@Exxene.com
Intended Use: Thermal-cure, anti-fog coating for plastic surfaces.

Disclaimer: This product is intended for use by skilled individuals at their own risk. The information contained herein is based on data considered accurate based on current state of knowledge and experience. However, no warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof. This information does not represent any guarantee of the properties of the product, and Exxene Corporation and its Affiliates shall not be held liable for any damage resulting from handling or contact with the product.