

Material Safety Data Sheet

Clarity DEFOG-it

Date of Preparation: 13-Oct-2006

Revision: 000

Section 1 - Chemical Product and Company Identification

Product/Chemical Name: Clarity DEFOG-it

Chemical Formula: multi-component formulated product

CAS Number: mixture

Other Designations:

General Use: surface treatment preparation

Manufacturer: Nanofilm Ltd., 10111 Sweet Valley Dr., Valley View, OH 44125, Phone (800) 883-6266, FAX (216) 447-1137 (8:30 AM – 5:30 PM),

(Emergency phone number: CHEMTREC +1 (800) 424-9300, International: (703) 527-3887

Section 2 - Composition / Information on Ingredients

Ingredient Name ¹	CAS Number	% wt
Proprietary Component #1		<3%
Proprietary Component #2		<5%
Proprietary Component #3		<5%
Proprietary Component #4		<2%

¹Note: Only those ingredients classifiable as hazardous under OSHA have been listed if present at >0.1%.

Section 3 - Hazards Identification

☆☆☆☆☆ **Emergency Overview** ☆☆☆☆☆

Irritant! Non-Flammable!

HMIS

H: 1

F: 0

R: 0

Potential Health Effects

Primary Exposure Routes: Direct contact with skin or eyes.

Target Organs: Skin and Eyes.

Acute Effects

Inhalation: Not expected to pose an inhalation hazard under anticipated conditions of use.

Eye: May cause slight to moderate eye irritation depending on conditions of exposure.

Skin: May cause slight irritation to skin depending on conditions of exposure.

Ingestion: Not expected to pose an ingestion hazard under anticipated conditions of use.

Chronic Effects

General: Prolonged and repeated skin contact may cause contact dermatitis (dry and irritated skin).

Carcinogenicity: No components of this product are listed as a carcinogen.

Medical Conditions Aggravated by Long-Term Exposure: None.

Potential Environmental Effects

General: Not expected to be toxic to aquatic systems.

Potential Physicochemical Hazards

General: None expected.

Section 4 - First Aid Measures

Inhalation: Move to fresh air. Seek medical attention if symptoms persist.

Eye Contact: Wash eyes with copious amount of cool water. Seek medical attention if irritation persists.

Skin Contact: Wash skin with soap and cold water. Seek medical attention if irritation persists.

Ingestion: Do not induce vomiting. Give 1 cup of cold water or milk. Contact emergency medical services.

Note to Physicians: Intentional ingestion may not cause overt signs of injury or damage.

Special Precautions/Procedures: In cases of ingestion, there is no known specific antidote. Treat symptoms.

Section 5 - Fire-Fighting Measures

Flash Point: > 93°C (200°F)

Flash Point Method: COC

Burning Rate: unknown

LEL: N/A

UEL: N/A

Flammability Classification: Non-Flammable

Extinguishing Media: Not Applicable

Unusual Fire or Explosion Hazards: None

Hazardous Combustion Products: A complex and largely unpredictable mixture of dangerous gases and particulate matter that can contain carbon monoxide, carbon dioxide, ammonia, hydrogen chloride, and hydrogen fluoride gas.

Fire-Fighting Instructions: All extinguishing media are compatible.

Fire-Fighting Equipment: Because fire may produce toxic thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full facepiece operated in pressure-demand or positive-pressure mode.



Section 6 - Accidental Release Measures

CAUTION: AVOID / PREVENT RELEASE INTO SEWERS OR WATERWAYS

Small Spills: Cover liquid completely with dry sodium bicarbonate, place absorbed material in a container and dispose of it according to local, state and federal regulations.

Large Spills:

Containment - Dike far ahead of spill. Avoid release into sewers or waterways.

Cleanup – Pump standing liquid into suitable container. Wash off exposed area with soap/water

Regulatory Requirements - Follow all applicable local regulations.

Section 7 - Handling and Storage

Handling Precautions: Use in a well-ventilated area. Do not intentionally smell or inhale the product.

Storage Requirements: Store product at or near room temperature away from extreme heat or cold.

Regulatory Requirements: None related to handling and storage.

Section 8 - Exposure Controls / Personal Protection

Engineering Controls: None required under expected conditions of use.

Administrative Controls: Work practices should be designed to minimize direct skin contact.

Respiratory Protection: Respiratory protection is not normally needed when using this product. If respirators are to be used, seek advice from an industrial hygienist or trained safety professional prior to respirator selection and use.

Protective Clothing/Equipment: Wear chemically protective gloves as needed to prevent prolonged and repeated skin contact. Wear protective eyeglasses or chemical safety goggles as needed to prevent eye contact. Contact lenses are not eye protective devices. Appropriate eye protection must be worn instead of, or in conjunction with contact lenses.

Safety Stations: Where splashing can occur, make emergency eyewash stations, safety/quick-drench showers, and washing facilities available in the work area.

Contaminated Equipment: No special precautions are normally needed.

Comments: None.

Section 9 - Physical and Chemical Properties

<p>Physical State: Liquid</p> <p>Appearance/Odor: Yellowish-green liquid w/bitter odor</p> <p>Odor Threshold: Unknown</p> <p>Vapor Pressure: Unknown</p> <p>Vapor Density (Air=1): Unknown</p> <p>Formula Weight: N/A</p> <p>Specific Gravity (H₂O=1, at 4 °C): 1</p> <p>pH: 7</p>	<p>Water Solubility: Unknown</p> <p>Other Solubilities: Unknown</p> <p>Boiling Point: Unknown</p> <p>Freezing/Melting Point: Unknown</p> <p>% Volatile: Unknown</p> <p>Evaporation Rate (BuAc=1): Expected to be slow.</p> <p>Viscosity: 10 cP</p> <p>Log Pow: Unknown</p>
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Section 10 - Stability and Reactivity

Stability: Material is stable at room temperature in closed containers under normal storage and handling conditions.

Polymerization: Not expected to occur.

Chemical Incompatibilities: oxidizing agents, acids, and alkali materials.

Conditions to Avoid: Extreme heat could cause containers to leak / rupture.

Hazardous Decomposition Products: Like most synthetic materials, thermal decomposition of the material can produce a complex and largely unpredictable mixture of dangerous gases and particulate matter that can contain carbon monoxide, carbon dioxide, ammonia, hydrogen chloride, and hydrogen fluoride gas.

Section 11- Toxicological Information

There are no data available on the toxicity of this product as a whole. The information presented below is based on the data that is available for the hazardous components that make up approximately 16% of the composition:

Isopropyl Alcohol (CAS# 67-63-0)

Human

TDLo - ROUTE: Oral; **DOSE:** 286 mg/kg

TOXIC EFFECTS:
Cardiac - Arrhythmias (including changes in conduction)
Behavioral - Coma
Kidney, Ureter, and Bladder - Other changes

Infant

TDLo - ROUTE: Oral; **DOSE:** 13 gm/kg

TOXIC EFFECTS:
Behavioral - Somnolence (general depressed activity)
Behavioral - Irritability
Gastrointestinal - Nausea or vomiting

Human

LDLo - ROUTE: Oral; **DOSE:** 3570 mg/kg

TOXIC EFFECTS:
Behavioral - Coma
Lung, Thorax, or Respiration - Respiratory depression
Gastrointestinal - Nausea or vomiting

SKIN - STANDARD DRAIZE TEST

Rabbit
ROUTE: Skin; **DOSE:** 500 mg; **REACTION:** Mild

EYE - STANDARD DRAIZE TEST

Rabbit
ROUTE: Eyes; **DOSE:** 100 mg/24H; **REACTION:** Moderate
ROUTE: Eyes; **DOSE:** 100 mg; **REACTION:** Severe
ROUTE: Eyes; **DOSE:** 10 mg; **REACTION:** Moderate

Section 12 - Ecological Information

General: No information available on the product as a whole. Information below is based on the primary components.

Acute/Chronic Aquatic Toxicity: Not expected to be toxic to aquatic systems.

Mobility: No information available.

Biodegradation: No information available.

Bioaccumulation: No information available.

Other adverse effects: No information available.

Section 13 - Disposal Considerations

Disposal: Contact your supplier or a licensed contractor for detailed recommendations. Follow applicable Federal, state, and local regulations. May be suitable for disposal in industrial water treatment facilities.

Disposal Regulatory Requirements: Unused material may be classifiable as hazardous for disposal.

Container Cleaning and Disposal: Follow local regulations for disposal of industrial waste. Allow residuals to evaporate before disposal.

Section 14 - Transport Information

IATA Transportation Data:

Shipping Name: Not Regulated

Shipping Symbols: N/A

Hazard Class: N/A

ID No.: N/A

Packing Group: N/A

Label: N/A

Special Provisions: N/A

Packaging Authorizations

a) **Exceptions:** N/A

b) **Non-bulk Packaging:** N/A

c) **Bulk Packaging:** N/A

Quantity Limitations

a) **Passenger, Aircraft, or Railcar:** N/A

b) **Cargo Aircraft Only:** N/A

c) **Limited quantities:** N/A

Vessel Stowage Requirements

a) **Vessel Stowage:** N/A

b) **Other:** N/A

Section 15 - Regulatory Information

EPA Regulations:

TSCA – All components of this material are listed on the inventory or are exempt.

RCRA Hazardous Waste Number: Not listed (40 CFR 261.33)

RCRA Hazardous Waste Classification: Not classified

SARA 311/312 Codes: Acute Health

SARA Toxic Chemical (40 CFR 372.65): None listed

SARA EHS (Extremely Hazardous Substance) (40 CFR 355): None Listed

OSHA Regulations and Exposure Limits:

OSHA Regulations:

Permissible Exposure Limit: Table Z-1 8-hr Time Weighted Avg: 400 ppm (980 mg/cu m).

Vacated 1989 OSHA PEL TWA 400 ppm (980 mg/cu m); STEL 500 ppm (1225 mg/cu m) is still enforced in some states.

NIOSH Recommendations:

Recommended Exposure Limit: 10 Hr Time-Weighted Avg: 400 ppm (980 mg/cu m).

Recommended Exposure Limit: 15 Min Short-Term Exposure Limit: 500 ppm (1225 mg/cu m).

ACGIH® Threshold Limit Values® Recommendations:

8 hr Time Weighted Avg (TWA): 200 ppm; Short Term Exposure Limit (STEL): 400 ppm A4; Not classifiable as a human carcinogen

Section 16 - Other Information

Recommended Restrictions: None.

Important note: The product contains one or more substances that have not been fully tested. The information provided is therefore based on our current knowledge and may not fully describe all of the physical, chemical, health or environmental properties of the product.

Prepared Under Direction of: Manager, Product Development

Revision Notes: None

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