



DENDRITECH, INC.

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www.Dendritech.com

In case of a Chemical Emergency involving a spill, leak, fire, exposure or accident contact Chemtrec® at 1-800-424-9300

-----SECTION I - PREPARATION/PRODUCT INFORMATION-----

Producer's Name: Dendritech Inc.
3110 Schuette Drive
Midland, MI 48642
(989)496-2016

Revision Date: April 30, 2003
Preparation Date: August 1, 2002

Product Name: Poly(amidoamine-co-organosilicon) (PAMAMOS) Dendrimer
(ISOPROPANOL SOLUTION)

-----SECTION II - INGREDIENTS-----

INGREDIENTS	CAS#	%	ACGIH	OSHA	CARCINOGEN LIST			SARA
			TLV	PEL	IARC	NTP	OSHA	313
HAZARDOUS INGREDIENTS-								
Isopropanol	67-63-0	85-50%	400ppm	400ppm	NO	NO	NO	YES
NON-HAZARDOUS INGREDIENTS								
Poly(amidoamine-co-organosilicon)	15-50%		NONE	NONE	NO	NO	NO	NO
HMIS Rating: Health=1, Flammability=3, Reactivity=0, Protection=B								

-----SECTION III - PHYSICAL & CHEMICAL DATA-----

Note: Properties based on isopropanol unless otherwise indicated.

Boiling Pt.- 82.26°C	Solubility in Water -*Very Soluble
Vapor Pressure- 33 mm Hg (20°C)	Vapor Density- 2.1 G/L
Evaporation Rate- 3 (butyl acetate = 1)	Appearance-*Clear, Slightly Yellow, Viscous Fluid
Odor*- Alcohol smell	Melting/Softening Pt.: -89.5°C
Odor Threshold- isopropanol ~50 ppm	pH - Dendrimers have an alkaline (~8-9) pH
Decomposition Temperature - Not Available	

*Based on Dendrimer in Isopropanol

-----**SECTION IV - FIRE AND EXPLOSION HAZARD**-----

NOTE: BASED ON ISOPROPANOL

Fire or Explosion Hazards - Dangerous fire hazard when exposed to heat or flame. Vapors can travel considerable distance to ignition source and flash back.

Flash Pt.- 11.66°C (53°F)

Special Fire Fighting Procedures -
Use self contained breathing system

Extinguishing: Water Spray, Carbon Dioxide, foam,
dry chemical.

Explosion limits in air:
Upper: 12.7%
Lower: 2.0%

Hazardous Combustion Products - May produce irritant fumes

Auto Ignition Temperature- 399°C (750°F)

-----**SECTION V - REACTIVITY DATA**-----

Stability - Stable under normal temperatures and pressures

Hazardous Decomposition Products - Carbon oxides; nitrogen oxides

Conditions to Avoid - contact with heat, flames, sparks. Poisonous; avoid vapor inhalation and skin contact, use in well ventilated area. Prolonged storage above normal room temperature can lead to some deterioration in product quality, but hazardous decomposition does not occur.

Hazardous Polymerization - Does not Occur

Incompatibility – Aluminum, oxidizing agents, inorganic acids, aldehydes, halogens, halogenated compounds, acid anhydrides, and acrylates. Avoid contact with copper, brass, or other copper alloys to prevent reaction with dendrimer.

-----**SECTION VI - HEALTH HAZARD DATA/TOXICOLOGICAL PROPERTIES**-----

Hazards to Humans-

Isopropanol is flammable. Skin contact and inhalation are primary routes of exposure, which could occur during handling. OSHA TWA is 400ppm (980mg/m³) for isopropanol.

Test Data- (See component information)

Isopropanol:

LD₅₀ Oral/Rats = 5045mg/kg. Essentially non - toxic

LD₅₀ Dermal/Rabbits = 6410 ml/kg. Slightly toxic

LC₅₀ 4 hrs Inhalation/Rats = 16,000 ppm. Essentially non-toxic.

Irritation Data: SKN-RBT 500 MGMLD

EYE-RBT 100 MG SEV

EYE-RBT 10 MG MOD

EYE-RBT 100 MG/24H MOD

Dendrimer:

The toxicological properties of poly(amidoamine-co-organosilicon)s have not been determined.

Additional Information.-

Isopropanol

Isopropanol is generally non-mutagenic and not a sensitizer. Can cause CNS depression.

Prolonged exposure can cause: nausea, headache and vomiting and drowsiness. To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated, May cause skin irritation. May be harmful if inhaled. May be irritating to mucous membranes and upper respiratory tract. May be harmful if swallowed.

-----SECTION VII - EMERGENCY/FIRST AID PROCEDURE-----

Inhalation- Remove to fresh air immediately. Support breathing if necessary and contact a physician.

Skin- Promptly wash skin with copious amount of water for at least 15 minutes. Remove contaminated clothing and shoes. Seek medical attention.

Eyes- Flush eyes with large quantities of water for at least 15 minutes. Seek medical attention.

Ingestion-Seek immediate medical attention. May be fatal if swallowed.

-----SECTION VIII - SAFE HANDLING/PREVENTATIVE MEASURES-----

Personal Protective Equipment - Chemical workers rubber gloves, safety glasses, adequate ventilation. Additional protective clothing, goggles, and respirator are required for large leaks, spills, or where gross contact is likely.

Ventilation - Provide general dilution ventilation to meet exposure limits. Ventilation equipment must be explosion proof.

Waste Disposal - Incineration is recommended. Comply with all federal, state, and local laws.

Procedures for Leaks or Spills - Soak up with inert absorbent material (e.g. sand, silica gel, soda ash). Place in suitable containers for disposal by incineration. After cleaning, flush area with water.

Storage requirements - Keep away from heat, flame and sparks. Ensure proper grounding of storage tanks (static sparks). *MOISTURE SENSITIVE*. To maintain product quality, store refrigerated (5-10°C) under a nitrogen pad.

Labeling: Flammable liquid and irritant.

-----**SECTION IX - TRANSPORTATION REQUIREMENTS**-----

Proper Shipping Name - Starburst dendrimer in Isopropanol

Hazard class -Isopropanol,3,UN 1219,II

Identification Number - UN 1219

Reportable Quantity - N/A

Packing Group - II (US Dept. of Transportation)

International Air Transportation Association (IATA) requirements: Flammable Liquid, WHMIS B-2, D-1A

-----**SECTION X - OTHER INFORMATION**-----

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. Dendritech, Inc. shall not be held liable for any damage resulting from handling or from contact with the above product.