

Ethidium Bromide Adsorber

sc-203947

Material Safety Data Sheet



The Power to Question

Hazard Alert Code Key:

EXTREME

HIGH

MODERATE

LOW

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

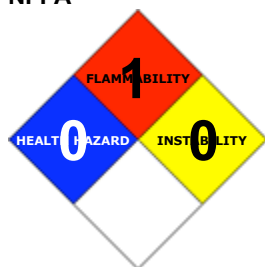
PRODUCT NAME

Ethidium Bromide Adsorber

STATEMENT OF HAZARDOUS NATURE

Not considered a hazardous substance according to OSHA 29 CFR 1910.1200.

NFPA



SUPPLIER

Santa Cruz Biotechnology, Inc.
2145 Delaware Avenue
Santa Cruz, California 95060
800.457.3801 or 831.457.3800

EMERGENCY:

ChemWatch
Within the US & Canada: 877-715-9305
Outside the US & Canada: +800 2436 2255
(1-800-CHEMCALL) or call +613 9573 3112

PRODUCT NUMBERS

SC-203947

SYNONYMS

"poly(styrene-co-divinylbenzene-co-ethylbenzene), sulfonated", "styrene/ DVB/ ethylstyrene copolymer, sulfonated", "benzene, diethenyl, polymer with ethenylbenzene and ethenylethylbenzene, ", sulfonated, "ethylbenzene, ethylethenylbenzene, diethenylbenzene polymer, sulfonated", "ion-exchange resin", "Dowex 50W-hydrogen, strongly acidic", "Dowex DR-2030 (+) form", "Dowex G-26", "Dowex HCR-S H-form", "Dowex HCR-W2 ion exchange resin", "Dowex M31 H form", "Dowex Marathon C Cation Exchange Resin", "Dowex Marathon WBA-Anion Exchange Resin", "Dowex Monosphere 650C (H) Cation Exchange Resin", "Dowex Monosphere AMW-500 Free Base", "Dowex Monosphere M-31", "Mito-Dowex G-26"

Section 2 - HAZARDS IDENTIFICATION

CHEMWATCH HAZARD RATINGS

	Min	Max
Flammability:	1	Min/Nil=0 Low=1 Moderate=2 High=3 Extreme=4
Toxicity:	0	
Body Contact:	0	

Reactivity: 1 

Chronic: 0 

CANADIAN WHMIS SYMBOLS

None

EMERGENCY OVERVIEW RISK

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

- The material has NOT been classified as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence.

EYE

- Although the material is not thought to be an irritant, direct contact with the eye may cause transient discomfort characterized by tearing or conjunctival redness (as with windburn). Slight abrasive damage may also result.

SKIN

- The material is not thought to produce adverse health effects or skin irritation following contact (as classified using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting.
- Open cuts, abraded or irritated skin should not be exposed to this material.
- Entry into the blood-stream, through, for example, cuts, abrasions 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.

INHALED

- The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.
- Persons with impaired respiratory function, airway diseases and conditions such as emphysema or chronic bronchitis, may incur further disability if excessive concentrations of particulate are inhaled.

CHRONIC HEALTH EFFECTS

- Long-term exposure to the product is not thought to produce chronic effects adverse to the health (as classified using animal models); nevertheless exposure by all routes should be minimized as a matter of course. Long term exposure to high dust concentrations may cause changes in lung function i.e. pneumoconiosis; caused by particles less than 0.5 micron penetrating and remaining in the lung. This material contains a substantial amount of polymer considered to be of low concern. These are classified under having MWs of between 1000 to 10000 with less than 25% of molecules with MWS under 1000 and less than 10% under 500; or having a molecular weight average of over 10000.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
styrene/ divinylbenzene/ ethylstyrene polymer, sulfonated	69011-20-7	>98
may contain residual		
styrene	100-42-5	

Section 4 - FIRST AID MEASURES

SWALLOWED

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

EYE

- If this product comes in contact with eyes: · Wash out immediately with water. · If irritation continues, seek medical attention.

SKIN

- If skin or hair contact occurs: · Flush skin and hair with running water (and soap if available). · Seek medical attention in event of irritation.

INHALED

· If dust is inhaled, remove from contaminated area. · Encourage patient to blow nose to ensure clear passage of breathing. · If irritation or discomfort persists seek medical attention.

NOTES TO PHYSICIAN

- Treat symptomatically.

Section 5 - FIRE FIGHTING MEASURES

Vapour Pressure (mmHG):	Not available
Upper Explosive Limit (%):	Not available
Specific Gravity (water=1):	Not available
Lower Explosive Limit (%):	Not available

EXTINGUISHING MEDIA

- There is no restriction on the type of extinguisher which may be used.
- Use extinguishing media suitable for surrounding area.

FIRE FIGHTING

- Alert Emergency Responders and tell them location and nature of hazard.
- Wear breathing apparatus plus protective gloves for fire only.

GENERAL FIRE HAZARDS/HAZARDOUS COMBUSTIBLE PRODUCTS

- Combustible solid which burns but propagates flame with difficulty.
 - Avoid generating dust, particularly clouds of dust in a confined or unventilated space as dusts may form an explosive mixture with air, and any source of ignition, i.e. flame or spark, will cause fire or explosion. Dust clouds generated by the fine grinding of the solid are a particular hazard; accumulations of fine dust may burn rapidly and fiercely if ignited.
- Combustion products include: carbon monoxide (CO), carbon dioxide (CO₂), sulfur oxides (SO_x), other pyrolysis products typical of burning organic material.

FIRE INCOMPATIBILITY

- Avoid contamination with oxidizing agents i.e. nitrates, oxidizing acids, chlorine bleaches, pool chlorine etc. as ignition may result.

PERSONAL PROTECTION

Glasses:

Chemical goggles.

Gloves:

Respirator:

Type A-P Filter of sufficient capacity

Section 6 - ACCIDENTAL RELEASE MEASURES

MINOR SPILLS

- Clean up all spills immediately.
- Avoid contact with skin and eyes.

MAJOR SPILLS

- Clear area of personnel and move upwind.
- Alert Emergency Responders and tell them location and nature of hazard.

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

- DO NOT pack ion-exchange columns with dried resin as the resin tends to expand when wetted and may cause the column to shatter.
- Limit all unnecessary personal contact.
- Wear protective clothing when risk of exposure occurs.

Empty containers may contain residual dust which has the potential to accumulate following settling. Such dusts may explode in the presence of an appropriate ignition source.

- Do NOT cut, drill, grind or weld such containers.
- In addition ensure such activity is not performed near full, partially empty or empty containers without appropriate workplace safety authorisation or permit.

RECOMMENDED STORAGE METHODS

- Lined metal can, Lined metal pail/drum
- Plastic pail.

STORAGE REQUIREMENTS

- Store in original containers.
- Keep containers securely sealed.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

Source	Material	TWA ppm	TWA mg/m³	STEL ppm	STEL mg/m³	Peak ppm	Peak mg/m³	TWA F/CC	Notes
Canada - Ontario Occupational Exposure Limits	styrene/ divinylbenzene/ ethylstyrene polymer, sulfonated (Particles (Insoluble or Poorly Soluble) Not Otherwise)		10 (I)						
Canada - British Columbia Occupational Exposure Limits	styrene/ divinylbenzene/ ethylstyrene polymer, sulfonated (Particles (Insoluble or Poorly Soluble) Not Otherwise Classified (PNOC))		10 (N)						
Canada - Ontario Occupational Exposure Limits	styrene/ divinylbenzene/ ethylstyrene polymer, sulfonated (Specified (PNOS) / Particules (insolubles ou peu solubles) non précisées par ailleurs)		3 (R)						
US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants	styrene/ divinylbenzene/ ethylstyrene polymer, sulfonated (Particulates not otherwise regulated Respirable fraction)		5						
US - California Permissible Exposure Limits for Chemical Contaminants	styrene/ divinylbenzene/ ethylstyrene polymer, sulfonated (Particulates not otherwise regulated Respirable fraction)		5						(n)
US - Oregon Permissible Exposure Limits (Z-1)	styrene/ divinylbenzene/ ethylstyrene polymer, sulfonated (Particulates not otherwise regulated (PNOR) (f) Total Dust)	-	10						Bold print identifies substances for which the Oregon Permissible Exposure Limits (PELs) are different than the federal Limits. PNOR means "particles not otherwise regulated."
US - Michigan Exposure Limits for Air Contaminants	styrene/ divinylbenzene/ ethylstyrene polymer, sulfonated (Particulates not		5						

BEI						
US OSHA Permissible Exposure Levels (PELs) - Table Z2	styrene (Styrene (Z37.15-1969))				200	
US NIOSH Recommended Exposure Limits (RELs)	styrene (Styrene)	50	215	100	425	
Canada - British Columbia Occupational Exposure Limits	styrene (Styrene - monomer)	50		75		2B
Canada - Alberta Occupational Exposure Limits	styrene (Phenylethylene (Styrene, monomer))	20	85	40	170	
US - Idaho - Acceptable Maximum Peak Concentrations	styrene (Styrene (Z37.15-1969))	100				200
US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants	styrene (Styrene)	50	215	100	425	
US - Vermont Permissible Exposure Limits Table Z-1-A Final Rule Limits for Air Contaminants	styrene (Styrene*)	50	215	100	425	200
US - Vermont Permissible Exposure Limits Table Z-1-A Transitional Limits for Air Contaminants	styrene (Styrene)		See Table Z-2			
US - California Permissible Exposure Limits for Chemical Contaminants	styrene (Styrene (monomer); phenylethylene)	50	215	100	425	500
US - Idaho - Limits for Air Contaminants	styrene (Styrene)		[2]			
US - Hawaii Air Contaminant Limits	styrene (Styrene, monomer)	50	215	100	425	
US - Alaska Limits for Air Contaminants	styrene (Styrene)	50	215	100	425	
US - Michigan Exposure Limits for Air Contaminants	styrene (Styrene)	50	215	100	425	
Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances	styrene (Styrene, monomer (Phenylethylene))	100	420	125	525	

Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits	styrene (Styrene, monomer)	20		40			T20
US - Washington Permissible exposure limits of air contaminants	styrene (Styrene (Phenylethylene, Vinyl benzene))	50		100			
Canada - Prince Edward Island Occupational Exposure Limits	styrene (Styrene - monomer)	20		40			TLV Basis: central nervous system impairment; upper respiratory tract irritation; peripheral neuropathy. BEI
US - Wyoming Toxic and Hazardous Substances Table Z-2 Acceptable ceiling concentration, Acceptable maximum peak above the acceptable ceiling concentration for an 8-hr shift	styrene (Styrene (Z37.15-1969))	100				200	
Canada - Quebec Permissible Exposure Values for Airborne Contaminants (English)	styrene (Styrene (monomer))	50	213	100	426		
Canada - Northwest Territories Occupational Exposure Limits (English)	styrene (Styrene, monomer (Phenyl ethylene))	50	213	100	426		
Canada - Nova Scotia Occupational Exposure Limits	styrene (Styrene - monomer)	20		40			TLV Basis: central nervous system impairment; upper respiratory tract irritation; peripheral neuropathy. BEI

US - Oregon			
Permissible	styrene (Styrene	100	200
Exposure Limits	(Z37.15-1969))		
(Z-2)			

ENDOELTABLE

PERSONAL PROTECTION



RESPIRATOR

- type a-p filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

EYE

- Safety glasses with side shields
- Chemical goggles.

HANDS/FEET

- Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include: such as:

- frequency and duration of contact,
- chemical resistance of glove material,
- glove thickness and
- dexterity

Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739, AS/NZS 2161.1 or national equivalent).

- When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.
- When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.
- Contaminated gloves should be replaced.

Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.

Experience indicates that the following polymers are suitable as glove materials for protection against undissolved, dry solids, where abrasive particles are not present.

- polychloroprene
- nitrile rubber
- butyl rubber
- fluorocarbon
- polyvinyl chloride

Gloves should be examined for wear and/ or degradation constantly.

OTHER

- No special equipment needed when handling small quantities.

OTHERWISE:

- Overalls.
- Barrier cream.

ENGINEERING CONTROLS

- Local exhaust ventilation is required where solids are handled as powders or crystals; even when particulates are relatively large, a certain proportion will be powdered by mutual friction.
- If in spite of local exhaust an adverse concentration of the substance in air could occur, respiratory protection should be considered.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL PROPERTIES

Solid.

Does not mix with water.

State	Divided solid	Molecular Weight	Varies
Melting Range (°F)	Not available	Viscosity	Not Applicable
Boiling Range (°F)	Not available	Solubility in water (g/L)	Immiscible
Flash Point (°F)	Not applicable	pH (1% solution)	Not applicable
Decomposition Temp (°F)	Not available	pH (as supplied)	Not applicable

Autoignition Temp (°F)	Not available	Vapour Pressure (mmHG)	Not available
Upper Explosive Limit (%)	Not available	Specific Gravity (water=1)	Not available
Lower Explosive Limit (%)	Not available	Relative Vapor Density (air=1)	Not Applicable
Volatile Component (%vol)	<0.1	Evaporation Rate	Not Applicable

APPEARANCE

■ Family of products which vary in their physical properties as a result of variations in production. Data presented here is for typical family member. Beads; does not mix with water

log Kow 2.95-3.05

Material	Value
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Section 10 - CHEMICAL STABILITY

CONDITIONS CONTRIBUTING TO INSTABILITY

■ Product is considered stable and hazardous polymerization will not occur.

STORAGE INCOMPATIBILITY

■ Avoid contamination of water, foodstuffs, feed or seed.

Ion-exchange resins may react explosively with concentrated nitric acid solutions and with other strong oxidizing agents.

Avoid reaction with oxidizing agents.

For incompatible materials - refer to Section 7 - Handling and Storage.

Section 11 - TOXICOLOGICAL INFORMATION

styrene/ divinylbenzene/ ethylstyrene polymer, sulfonated

TOXICITY AND IRRITATION

STYRENE/ DIVINYLBENZENE/ ETHYLSTYRENE POLYMER, SULFONATED:

■ No significant acute toxicological data identified in literature search.

STYRENE:

■ unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

TOXICITY	IRRITATION
Oral (Rat) LD50: 2650 mg/kg	Skin (rabbit): 500 mg - Mild
Intraperitoneal (Rat) LD50: 898 mg/kg	Eye (rabbit): 100 mg/24h - Moderate
Oral (Mouse) LD50: 316 mg/kg	Skin (rabbit): 500 mg - Mild
Inhalation (Mouse) LC50: 9500 mg/m³/4h	Eye (rabbit): 100 mg/24h - Moderate
Intraperitoneal (Mouse) LD50: 660 mg/kg	
Intravenous (Mouse) LD50: 90 mg/kg	
Inhalation (Rabbit) LC: 4000 ppm/4h	
Inhalation (Rat) LC50: 24000 mg/m³/4h	
Inhalation (Human) LCLo: 10000 ppm/30 m	

■ The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.

WARNING: This substance has been classified by the IARC as Group 2B: Possibly Carcinogenic to Humans.

CARCINOGEN

Styrene	International Agency for Research on Cancer (IARC) - Agents Reviewed by the IARC Monographs	Group	2B
Styrene - monomer	US ACGIH Threshold Limit Values (TLV) - Carcinogens	Carcinogen Category	A4
styrene	US - Rhode Island Hazardous Substance List	IARC	
STYRENE	US Environmental Defense Scorecard Suspected Carcinogens	Reference(s)	EPA-HEN, HAZMAP, IARC, NTP-BR, P65-CAND

TWAPPM~	US - Maine Chemicals of High Concern List	Carcinogen	A4
VPVB_(VERY~	US - Maine Chemicals of High Concern List	Carcinogen	
SKIN			
styrene	Canada - British Columbia Occupational Exposure Limits - Skin	Notation	Skin
styrene	US - California Permissible Exposure Limits for Chemical Contaminants - Skin	Skin	S
styrene	Canada - Alberta Occupational Exposure Limits - Skin	Substance Interaction	1

Section 12 - ECOLOGICAL INFORMATION

No data

Ecotoxicity

Ingredient	Persistence: Water/Soil	Persistence: Air	Bioaccumulation	Mobility
styrene/ divinylbenzene/ ethylstyrene polymer, sulfonated	No Data Available	No Data Available		
styrene	LOW	LOW	LOW	MED

Section 13 - DISPOSAL CONSIDERATIONS

Disposal Instructions

All waste must be handled in accordance with local, state and federal regulations.

‡ Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.

A Hierarchy of Controls seems to be common - the user should investigate:

- Reduction
- Reuse
- Recycling
- Disposal (if all else fails)

This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. Shelf life considerations should also be applied in making decisions of this type. Note that properties of a material may change in use, and recycling or reuse may not always be appropriate.

DO NOT allow wash water from cleaning equipment to enter drains. Collect all wash water for treatment before disposal.

- Recycle wherever possible.
- Consult manufacturer for recycling options or consult Waste Management Authority for disposal if no suitable treatment or disposal facility can be identified.

Section 14 - TRANSPORTATION INFORMATION

NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS: DOT, IATA, IMDG

Section 15 - REGULATORY INFORMATION

styrene (CAS: 100-42-5) is found on the following regulatory lists;

"Canada - Alberta Ambient Air Quality Objectives","Canada - Alberta Occupational Exposure Limits","Canada - British Columbia Occupational Exposure Limits","Canada - Northwest Territories Occupational Exposure Limits (English)","Canada - Nova Scotia Occupational Exposure Limits","Canada - Ontario Occupational Exposure Limits","Canada - Prince Edward Island Occupational Exposure Limits","Canada - Prince Edward Island Occupational Exposure Limits - Carcinogens","Canada - Quebec Permissible Exposure Values for Airborne Contaminants (English)","Canada - Saskatchewan Industrial Hazardous Substances","Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits","Canada - Saskatchewan Occupational Health and Safety Regulations - Designated Chemical Substances","Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances","Canada Domestic Substances List (DSL)","Canada Environmental Quality Guidelines (EQGs) Water: Aquatic life","Canada Ingredient Disclosure List (SOR/88-64)","Canada National Pollutant Release Inventory (NPRI)","Canada Priority

Substances List (PSL1, PSL 2)", "Canada Toxicological Index Service - Workplace Hazardous Materials Information System - WHMIS (English)", "GESAMP/EHS Composite List - GESAMP Hazard Profiles", "IMO IBC Code Chapter 17: Summary of minimum requirements", "IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk", "International Agency for Research on Cancer (IARC) - Agents Reviewed by the IARC Monographs", "International Air Transport Association (IATA) Dangerous Goods Regulations", "International Air Transport Association (IATA) Dangerous Goods Regulations - Prohibited List", "International Chemical Secretariat (ChemSec) REACH SIN* List (*Substitute It Now!) 1.1", "International Fragrance Association (IFRA) Survey: Transparency List", "US - Alaska Limits for Air Contaminants", "US - California Air Toxics ""Hot Spots"" List (Assembly Bill 2588) Substances for which emissions must be quantified", "US - California Occupational Safety and Health Regulations (CAL/OSHA) - Hazardous Substances List", "US - California OEHHA/ARB - Acute Reference Exposure Levels and Target Organs (RELs)", "US - California OEHHA/ARB - Chronic Reference Exposure Levels and Target Organs (CRELs)", "US - California Permissible Exposure Limits for Chemical Contaminants", "US - California Toxic Air Contaminant List Category II", "US - California Toxic Air Contaminant List Category III", "US - Connecticut Hazardous Air Pollutants", "US - Hawaii Air Contaminant Limits", "US - Idaho - Acceptable Maximum Peak Concentrations", "US - Idaho - Limits for Air Contaminants", "US - Maine Chemicals of High Concern List", "US - Massachusetts Oil & Hazardous Material List", "US - Michigan Exposure Limits for Air Contaminants", "US - Minnesota Hazardous Substance List", "US - Minnesota Permissible Exposure Limits (PELs)", "US - New Jersey Right to Know Hazardous Substances", "US - Oregon Permissible Exposure Limits (Z-1)", "US - Oregon Permissible Exposure Limits (Z-2)", "US - Pennsylvania - Hazardous Substance List", "US - Rhode Island Hazardous Substance List", "US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants", "US - Vermont Permissible Exposure Limits Table Z-1-A Final Rule Limits for Air Contaminants", "US - Vermont Permissible Exposure Limits Table Z-1-A Transitional Limits for Air Contaminants", "US - Washington Permissible exposure limits of air contaminants", "US - Wyoming Toxic and Hazardous Substances Table Z1 Limits for Air Contaminants", "US - Wyoming Toxic and Hazardous Substances Table Z-2 Acceptable ceiling concentration, Acceptable maximum peak above the acceptable ceiling concentration for an 8-hr shift", "US ACGIH Threshold Limit Values (TLV)", "US ACGIH Threshold Limit Values (TLV) - Carcinogens", "US ATSDR Minimal Risk Levels for Hazardous Substances (MRLs)", "US CAA (Clean Air Act) - HON Rule - Organic HAPs (Hazardous Air Pollutants)", "US CERCLA Priority List of Hazardous Substances", "US Clean Air Act - Hazardous Air Pollutants", "US CWA (Clean Water Act) - List of Hazardous Substances", "US CWA (Clean Water Act) - Reportable Quantities of Designated Hazardous Substances", "US Department of Transportation (DOT) List of Hazardous Substances and Reportable Quantities - Hazardous Substances Other Than Radionuclides", "US DOE Temporary Emergency Exposure Limits (TEELs)", "US EPA Acute Exposure Guideline Levels (AEGLs) - Interim", "US EPA High Production Volume Program Chemical List", "US EPA Master Testing List - Index I Chemicals Listed", "US EPA National Priorities List - Superfund Chemical Data Matrix (SCDM) - Hazard Ranking System - Hazardous Substance Benchmarks", "US EPCRA Section 313 Chemical List", "US FDA Indirect Food Additives: Adhesives and Components of Coatings - Substances for Use Only as Components of Adhesives - Adhesives", "US Food Additive Database", "US List of Lists - Consolidated List of Chemicals Subject to EPCRA, CERCLA and Section 112(r) of the Clean Air Act", "US NFPA 499 Combustible Dusts", "US NIOSH Recommended Exposure Limits (RELs)", "US OSHA Permissible Exposure Levels (PELs) - Table Z1", "US OSHA Permissible Exposure Levels (PELs) - Table Z2", "US RCRA (Resource Conservation & Recovery Act) - Appendix IX to Part 264 Ground-Water Monitoring List 1", "US RCRA (Resource Conservation & Recovery Act) - List of Hazardous Inorganic and Organic Constituents 1", "US -Texas Air Monitoring Comparison Values for Evaluating Carbonyls", "US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory", "WHO Guidelines for Drinking-water Quality - Guideline values for chemicals that are of health significance in drinking-water"

Section 16 - OTHER INFORMATION

Reasonable care has been taken in the preparation of this information, but the author makes no warranty of merchantability or any other warranty, expressed or implied, with respect to this information. The author makes no representations and assumes no liability for any direct, incidental or consequential damages resulting from its use. For additional technical information please call our toxicology department on +800 CHEMCALL.

■ Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

A list of reference resources used to assist the committee may be found at:
www.chemwatch.net/references.

■ The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

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