


MATERIAL SAFETY DATA SHEET

Product Number:
Product Description:

019704, 019632, 019646
Hi-Phi Eluant, Na-B

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HAZARDOUS INGREDIENTS/IDENTITY INFORMATION (Section II)

HAZARDOUS COMPONENTS	PERCENT SOLUTION	CAS NO.
Citrate (Trisodium form)	2%	6132-04-3
(Hydrogen form)		77-92-9
Thiodiglycol	0.5%	111-48-8
Phenol	0.1%	108-95-2

PHYSICAL/CHEMICAL CHARACTERISTICS (Section III)

BOILING POINT: Approx 100°C (Note: Approximately 97% water)

SPECIFIC GRAVITY (H2O = 1): Approx 1

MELTING POINT: Approx 0°C

MOLECULAR WEIGHT: N/A

SOLUBILITY IN WATER: Soluble

APPEARANCE AND ODOR: Clear solution with mild sulfur odor

pH 4.25

FIRE AND EXPLOSION HAZARD DATA (Section IV)

FLASH POINT (METHOD USED): Nonflammable (Note: Approximately 97%
water)

FLAMMABLE LIMITS:

LEL: Unknown

UEL: Unknown

EXTINGUISHING MEDIA: Carbon Dioxide, Foam, Dry Chemicals, Water

SPECIAL FIRE FIGHTING PROCEDURES:

- * Fire fighters subject to products of combustion should wear full protective clothing including self-contained breathing apparatus.

REACTIVITY DATA (Section V)

STABILITY

UNSTABLE:

STABLE: X

CONDITIONS TO AVOID:

HAZARDOUS DECOMPOSITION OR BYPRODUCTS:

- * Thermal decomposition may release toxic oxides of sulfur.

HAZARDOUS POLYMERIZATION:

MAY OCCUR:

WILL NOT OCCUR: X

CONDITIONS TO AVOID:

HEALTH HAZARD DATA (Section VI)

HAZARD CLASS:

COMPONENT	CERCLA RATINGS	(SCALE 0-3)			
		Health	Reactivity		
			Fire	Persistence	
Sodium Citrate (Pure)	Moderate Irritant	0	0	0	3
Citric Acid (Pure)	Moderate Irritant	1	0	0	0
Thiodiglycol	Mild Irritant	-----N/A-----			
Phenol	Poison B	3	2	0	1

ROUTES OF ENTRY

INHALATION?: X
SKIN?: X
INGESTION?: X

HEALTH HAZARDS (ACUTE AND CHRONIC):

- * All compounds may be harmful by inhalation, ingestion or skin absorption.
- * All compounds will cause eye and/or skin irritation.
- * All compounds can be irritating to mucous membranes and upper respiratory tract.
- * In its pure form, phenol is a poison which is rapidly absorbed by skin.
- * Toxic Hazards

TOXICITY DATA (ref #1)

Citric Acid - No references

Sodium Citrate - No references

Thiodiglycol

skn-rbt 500 mg open MLD
eye-rbt 500 mg
scu-rat LD50:4000 mg/kg
scu-mus LD50:4000 mg/kg
ivn-rbt LD50:3000 mg/kg
orl-gpg LD50:3960 mg/kg

Phenol

skn-rbt 500 mg/24H SEV
skn-rbt 535 mg open SEV
eye-rbt 5 mg SEV
mmo-sat 400 uL/plate
sce-hmn:lym 200 umol/L
dnd-mam:lym 250 mmol/L
orl-rat TDLo:14 kg/kg/2Y-C:ETA

orl-mus TDLo:27 kg/kg/2Y-C:ETA

skn-mus TDLo:16 gm/kg/
40W-I:CARC

skn-mus TD:4000mg/kg/
24W-I:NEO

orl-hmn LDLo:140 mg/kg
orl-rat LD50:414 mg/kg
skn-rat LD50:669 mg/kg
ipr-rat LD50:250 mg/kg
scu-rat LDLo:650 mg/kg
orl-mus LD50:300 mg/kg
ipr-mus LD50:360 mg/kg
scu-mus LD50:344 mg/kg
ivn-mus LD50:112 mg/kg
orl-dog LDLo:500 mg/kg
par-dog LDLo:2000 mg/kg
orl-cat LDLo:80 mg/kg
scu-cat LDLo:80 mg/kg
par-cat LDLo:500 mg/kg
orl-rbt LDLo:420 mg/kg
skn-rbt LD50:850 mg/kg
ipr-rbt LDLo:620 mg/kg
scu-rbt LDLo:620 mg/kg
ivn-rbt LDLo:180 mg/kg
par-rbt LDLo:300 mg/kg
ipr-gpg LDLo:300 mg/kg
scu-gpg LDLo:450 mg/kg
scu-frg LDLo:75 mg/kg
par-frg LDLo:290 mg/kg
scu-frg LDLo:290 mg/kg

reference #1 DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS
By Irving Sax
6th Edition
Van Nostrand Reinhold Company, Inc.

CARCINOGENICITY:

NTP?: Unknown
IARC MONOGRAPHS?: Unknown
OSHA REGULATED?: Unknown

SYMPTOMS AND SIGNS OF EXPOSURE:

- * Sodium citrate, citric acid, and thiodiglycol are mild irritants, and moderately toxic if ingested.
- * Phenol in its pure form is a skin irritant and is a poison rapidly absorbed by the skin. Headache, dizziness, muscular weakness, dimness of vision, ringing in the ears, irregular and rapid breathing, weak pulse, and dyspnea may all develop. When taken internally, there is also nausea, with or without vomiting, severe abdominal pain, and corrosion of the lips, mouth, throat, esophagus and stomach. On the skin, the affected area is white, wrinkled and softened, and there is usually no immediate complaint of pain; later, intense burning is felt.

EMERGENCY AND FIRST AID PROCEDURES:

- * In case of contact, rinse skin with copious amounts of water.
- * Flush eyes with copious amounts of water for at least 15 minutes.
- * If inhaled remove to fresh air. If not breathing give artificial respiration. If breathing is difficult give oxygen.
- * Submit to medical examination.

PRECAUTIONS FOR SAFE HANDLING AND USE (Section VII)

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

- * Wear appropriate protective clothing and eye protection.
- * If the spill is large, wear a self-contained breathing apparatus.
- * Sweep up and store in a suitable waste container.
- * Wash contaminated areas with soap and water.

WASTE DISPOSAL METHOD:

- * Dispose of according to local, state and federal laws.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:

- * Work in an area with adequate ventilation.

CONTROL MEASURES (Section VIII)

RESPIRATORY PROTECTION (SPECIFY TYPE)

- * For large amounts where phenol or thiodiglycol vapors might be a problem, wear an OSHA approved respirator with an acid prefilter.

VENTILATION

- LOCAL EXHAUST: Good laboratory ventilation is acceptable.
- MECHANICAL (GENERAL):
- SPECIAL:
- OTHER:

PROTECTIVE GLOVES: Disposable laboratory gloves are adequate.

EYE PROTECTION: Glasses or goggles.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Labcoats

WORK/HYGIENIC PRACTICES: Standard laboratory practices are adequate.