

HACH COMPANY -- 42532, MANVER HARDNESS INDICATOR -- 6810-00-798-9702

===== Product Identification =====

Product ID:42532, MANVER HARDNESS INDICATOR

MSDS Date:07/03/2000

FSC:6810

NIIN:00-798-9702

Status Code:A

MSDS Number: CKZVN

=== Responsible Party ===

Company Name:HACH COMPANY

Address:5600 LINDBERGH DR

Box:389

City:LOVELAND

State:CO

ZIP:80539

Country:US

Info Phone Num:970-669-3050

Emergency Phon

e Num:303-623-5716

Resp. Party Other MSDS Num.:M000635

CAGE:91224

=== Contractor Identification ===

Company Name:HACH CO

Address:5600 LINDBERGH DR

Box:389

City:LOVELAND

State:CO

ZIP:80539

Country:US

Phone:970-669-3050/ 303-623-5716

CAGE:91224

Company Name:PROTRONICS CORP

Address:2411 11TH AVE S

Box:City:GREAT FALLS

State:MT

ZIP:59405

Country:US

Phone:888-452-9589/FAX: 406-452-0089

Contract Num:SP0450-01-M-D894

CAGE:06DN1

===== Composition/Information on Ingredients =====

Ingr

ed Name:PROPYLENE GLYCOL
CAS:57-55-6
RTECS #:TY2000000
Minumum % Wt:90.
Maxumum % Wt:100.

Ingred Name:HYDROXYLAMINE HYDROCHLORIDE
CAS:5470-11-1
RTECS #:NC3675000
Minumum % Wt:1.
Maxumum % Wt:10.
Other REC Limits:LD50 ORAL=408MG/KG

Ingred Name:ISOPROPANOL
CAS:67-63-0
RTECS #:NT8050000
< Wt:5.
OSHA PEL:980 MG/M3;400 PPM
ACGIH TLV:983 MG/M3;400 PPM
ACGIH STEL:1230 MG/M3;500 PPM

Ingred Name:CALMAGITE
CAS:3147-14-6
< Wt:1.

===== Hazards Identification =====

Routes of Entry: Inhalation:YES Skin:YES Ingestion:YES
Reports of Carcinogenicity:NTP:NO IARC:NO OSHA:NO

Health Hazards Acute and Chronic:EYES: CAUSES IRRITATION. SKIN: MAY
CAUSE IRRITATION & ALLERGIC REACTION. SKIN ABSORPTION: WILL BE
ABSORBED THROUGH THE SKIN. EFFECTS SIMILAR TO THOSE OF INGESTION.
INGESTION: VERY LARGE DOSES MAY CAUS E: CENTRAL VERVOUS SYSTEM
DEPRESSION, DROWSINESS, DIZZINESS, INCOORDINATION, HEADACHE,
ABDOMINAL CRAMPS, RAPID PULSE AND RESPIRATIONS,
CONVULSIONS.

HYDROXYLAMINE HYDROCHLORIDE CAUSES A DECREASED SUPPL Y OF OXYGEN TO
THE TISSUES, BLUE DISCOLORATION OF THE SKIN, CONVULSIONS, DROP IN
BLOOD PRESSURE AND COMMA. INHALATION: MAY CAUSE IRRITATION OF NOSE
AND THROAT. TARGET ORGANS: CNS & RED BLOOD CELLS. CH RONIC:DAMAGE
TO RED CELLS.

Explanation of Carcinogenicity:THIS PRODUCT DOES NOT CONTAIN ANY OSHA,
IARC AND NTP LISTED CARCINOGEN. CONTAINS AN EXPERIMENTAL MUTAGEN
AND EXPERIMENTAL TERATOGEN.

Effects of Ov

ereposure:CAUSES IRRITATION OR EYES & SKIN, ALLERGIC REACTION. INGESTION: VERY LARGE DOSES MAY CAUSE: CENTRAL VEROUS SYSTEM DEPRESSION, DROWSINESS, DIZZINESS, INCOORDINATION, HEADACHE, ABDOMINAL CRAMPS RAPID PULSE AND RESPIRATIONS, CONVULSIONS. HYDROXYLAMINE HYDROCHLORIDE CAUSES A DECREASED SUPPLY OF OXYGEN TO THE TISSUES, BLUE DISCOLORATION OF THE SKIN, CONVULSIONS, DROP IN BLOOD PRESSURE AND COMMA. IN HALATION: IRRITATION OF NOSE AND THROAT.

Medical Cond Aggra

vated by Exposure:EYE, SKIN AND RESPIRATORY CONDITIONS.

===== First Aid Measures =====

First Aid:EYE CONTACT: IMMEDIATELY FLUSH WITH WATER FOR 15 MINUTES. CALL PHYSICIAN. SKIN: WASH WITH SOAP AND PLENTY OF WATER. CALL A PHYSICIAN IF IRRITATION DEVELOPS. INGESTION: DO NOT INDUCE VOMITING. GIVE 1-2 GLASSES OF WATER. CALL PHYSICIAN IMMEDIATELY. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. INHALATION: REMOVE TO FRESH AIR.

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===== Fire Fighting Measures =====

Flash Point Method:CC

Flash Point:~25.7C, 78.3F

Autoignition Temp:Autoignition Temp Text:ND

Lower Limits:ND

Upper Limits:ND

Extinguishing Media:ALCOHOL FOAM

Fire Fighting Procedures:AS IN ANY FIRE, WEAR SELF-CONTAINED BREATHING APPARATUS PRESSURE-DEMAND AND FULL PROTECTIVE GEAR.

Unusual Fire/Explosion Hazard:MAY REACT VIOLENTLY WITH STRONG OXIDIZERS. DO NOT EXPOSE TO SPARKS OR OTHER IGNITION SOURCES.

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Accidental Release Measures =====

Spill Release Procedures:ELIMINATE ALL SOURCES OF IGNITION. DO NOT BREATHE THE FUMES. USE ONLY NON-SPARKING TOOLS. COVER SPILLED MATERIAL WITH AN ALKALI, SUCH AS SODA ASH OR SODIUM BICARBONATE. SCOOP UP SLURRY INTO A LARGE BEAKER. DILUTE WITH A LARGE EXCESS OF WATER. FILTER TO REMOVE SOLIDS. FLUSH THE SPILLED MATERIALS TO THE DRAIN WITH A LARGE EXCESS OF WATER. DECONTAMINATE THE AREA OF THE SPILL WITH A SOAP SOLUTION.

Neutral

izing Agent:SODA ASH OR SODIUM BICARBONATE. EVACUATE AREA AFTER SPILL.

===== Handling and Storage =====

Handling and Storage Precautions:AVOID CONTACT WITH EYES, SKIN, CLOTHING, DO NOT BREATHE MIST OR VAPORS. WASH THOROUGHLY AFTER HANDLING. MAINTAIN GENERAL INDUSTRIAL HYGIENE PRACTICES WHEN USING THIS PRODUCT. KEEP AWAY FROM OXIDIZERS , PROTECT FROM SPARKS, FLAMES AND OTHER IGNITION SOURCES.

Other Precautions:FLAMMABILITY CLASS: CLASS 1C.

DISPOSAL MUST BE IN

ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.

===== Exposure Controls/Personal Protection =====

Respiratory Protection:ADEQUATE VENTILATION

Ventilation:ADEQUATE VENTILATION

Protective Gloves:DISPOSABLE LATEX GLOVES

Eye Protection:SAFETY GLASSES WITH TOP AND SIDE SHIELDS.

Other Protective Equipment:HAVE AN EYEWASH STATION NEARBY. LAB COAT.

Work Hygienic Practices:MAINTAIN GENERAL INDUSTRIAL HYGIENE PRACTICES WHEN USING THIS PRODUCT. AVOID

CONTACT WITH EYES, SKIN, CLOTHING DO

NOT BREATHE MIST/VAPOR WASH THOROUGHLY AFTER HANDLING.

Supplemental Safety and Health

===== Physical/Chemical Properties =====

HCC:F6

Boiling Pt:=118.C, 244.4F

Melt/Freeze Pt:M.P/F.P Text:ND

Vapor Pres:ND

Vapor Density:ND

Spec Gravity:1.01

pH:1.09

Evaporation Rate & Reference:0.05 (WATER=1)

Solubility in Water:SOLUBLE

Appearance and Odor:DARK RED LIQUID, FRUITY ODOR

===== Stability and Reactivity Data =====

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Stability Indicator/Materials to Avoid: YES
INCOMPATIBLE WITH OXIDIZERS.
Stability Condition to Avoid: CONTACT WITH HEAT, SPARKS, OPEN FLAMES OR
OTHER IGNITION SOURCES. HEATING TO DECOMPOSITION.
Hazardous Decomposition Products: TOXIC FUMES OF CHLORIDES, CARBON
MONOXIDE, CARBON DIOXIDE.
Conditions to Avoid Polymerization: WILL NOT OCCUR.

===== Toxicological Information =====

Toxicological Information: PROPYLENE GLYCOL: LD50 ORAL RAT = 20 G/KG.
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HYDROXYLAMINE HYDROCHLORIDE: LD50 ORAL MOUSE = 408 MG/KG.
ISOPROPANOL: LD50 ORAL RAT = 5045 MG/KG, ORAL HUMAN LD01 = 2770
MG/KG. CALMAGITE: LD50 ORAL RAT > 5000 MG/KG.

===== Ecological Information =====

Ecological: NO ECOLOGICAL DATA AVAILABLE FOR THIS PRODUCT AND ITS
INGREDIENTS.

===== Disposal Considerations =====

Waste Disposal Methods: DILUTE TO 3 TO 5 TIMES THE VOLUME WITH COLD
WATER. ADJUST TO A PH BETWEEN 6 AND
9 WITH AN ALKALI, SUCH AS SODA
ASH OR SODIUM BICARBONATE. OPEN COLD WATER TAP COMPLETELY, SLOWLY
POUR THE REACTED MATERIAL TO THE DRAIN. RINSE EMPTY CONTAINERS
THREE TIMES WITH AN APPROPRIATE SOLVENT. DISPOSE OF EMPTY CONTAINER
AS NORMAL TRASH.

===== MSDS Transport Information =====

Transport Information: DOT/ICAO/IMO PROPER SHIPPING NAME: FLAMMABLE
LIQUID, CORROSIVE, N.O.S (