

The following list contains the Material Safety Data Sheets you requested. Please scroll down to view the requested MSDS(s).

Product	MSDS	Distributor	Format	Language	Quantity
42532	N/A	Hach Company	OSHA	English	1
42532	N/A	Hach Company	ROWGHS	English	1

Total Enclosures: 2

World Headquarters
Hach Company
P.O.Box 389
Loveland, CO USA 80539
(970) 669-3050

MSDS No: M00635

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: ManVer ® Hardness Indicator
Catalog Number: 42532

Hach Company
P.O.Box 389
Loveland, CO USA 80539
(970) 669-3050

Emergency Telephone Numbers:
(Medical and Transportation)
(303) 623-5716 24 Hour Service
(515)232-2533 8am - 4pm CST

MSDS Number: M00635
Chemical Name: Not applicable
CAS No.: Not applicable
Chemical Formula: Not applicable
Chemical Family: Not applicable
Hazard: Causes irritation. Flammable. May cause allergic reaction.
Date of MSDS Preparation:
Day: 14
Month: July
Year: 2014

2. COMPOSITION / INFORMATION ON INGREDIENTS

Propylene Glycol

CAS No.: 57-55-6
TSCA CAS Number: 57-55-6
Percent Range: 90.0 - 100.0
Percent Range Units: volume / volume
LD50: Oral rat, 20 g/kg
LC50: Inhalation rat LC50 = 2180 mg/m³/6h/90 day intermittent
TLV: Not established
PEL: Not established
Hazard: No effects anticipated.

Hydroxylamine Hydrochloride

CAS No.: 5470-11-1
TSCA CAS Number: 5470-11-1
Percent Range: 1.0 - 10.0
Percent Range Units: weight / volume
LD50: Oral mouse LD50 = 141 mg/kg
LC50: None reported
TLV: 10 mg/m³ as inhalable dust; 3 mg/m³ as respirable dust
PEL: 15 mg/m³ as inhalable dust; 5 mg/m³ as respirable dust
Hazard: Toxic.Causes irritation.May cause allergic reaction.

Isopropanol

CAS No.: 67-63-0
TSCA CAS Number: 67-63-0
Percent Range: < 5.0
Percent Range Units: volume / volume
LD50: Oral Rat LD50 = 4710 mg/kg
LC50: Inhalatoin Rat LC50 = 72.6 mg/L/4 hr
TLV: 200 ppm (492 mg/m³)

PEL: 400 ppm (980 mg/m³)

Hazard: Flammable.Causes eye irritationCauses skin irritationCentral nervous system depressionExperimental teratogen.

Calmagite

CAS No.: 3147-14-6

TSCA CAS Number: 3147-14-6

Percent Range: < 0.1

Percent Range Units: weight / volume

LD50: Oral rat LD50> 5000 mg/kg

LC50: None reported

TLV: Not established

PEL: Not established

Hazard: May cause irritation.

3. HAZARDS IDENTIFICATION

Emergency Overview:

Appearance: Dark red liquid

Odor: Fruity

HARMFUL IF SWALLOWED CAUSES EYE IRRITATION MAY CAUSE SKIN IRRITATION

MAY CAUSE ALLERGIC SKIN REACTION

FLAMMABLE

HMIS:

Health: 2*

Flammability: 3

Reactivity: 0

Protective Equipment: X - See protective equipment, Section 8.

NFPA:

Health: 1

Flammability: 3

Reactivity: 0

Symbol: Not applicable

Potential Health Effects:

Eye Contact: Causes irritation

Skin Contact: May cause irritation May cause allergic reaction

Skin Absorption: Will be absorbed through the skin. Effects similar to those of ingestion

Target Organs: Central nervous system Red blood cells

Ingestion: Very large doses may cause: central nervous 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 coma.

Target Organs: Central nervous system Red blood cells

Inhalation: May cause: irritation of nose and throat

Target Organs: None reported

Medical Conditions Aggravated: Pre-existing: Eye conditions Skin conditions Respiratory conditions

Chronic Effects: Chronic overexposure may cause damage to red blood cells

Cancer / Reproductive Toxicity Information:

This product does NOT contain any OSHA listed carcinogens.

This product does NOT contain any IARC listed chemicals.

This product does NOT contain any NTP listed chemicals.

Additional Cancer / Reproductive Toxicity Information: Contains: a suspected carcinogen.

Toxicologically Synergistic Products: None reported

4. FIRST AID

Eye Contact: Immediately flush eyes with water for 15 minutes. Call physician.

Skin Contact (First Aid): Wash skin with soap and plenty of water. Call physician if irritation develops.

Ingestion (First Aid): 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.

5. FIRE FIGHTING MEASURES

Flammable Properties: Combustion generates toxic fumes.

Flash Point: 25.7°C (78.3°F)

Method: Closed cup

Flammability Limits:

Lower Explosion Limits: Not determined

Upper Explosion Limits: Not determined

Autoignition Temperature: Not determined

Hazardous Combustion Products: Toxic fumes of: chlorides carbon monoxide, carbon dioxide.

Fire / Explosion Hazards: May react violently with: strong oxidizers Do not expose to sparks or other ignition sources.

Static Discharge: None reported.

Mechanical Impact: None reported

Extinguishing Media: Alcohol foam.

Fire Fighting Instruction: As in any fire, wear self-contained breathing apparatus pressure-demand and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Spill Response Notice:

Only persons properly qualified to respond to an emergency involving hazardous substances may respond to a spill according to federal regulations (OSHA 29 CFR 1910.120(a)(v)) and per your company's emergency response plan and guidelines/procedures. See Section 13, Special Instructions for disposal assistance. Outside of the US, only persons properly qualified according to state or local regulations should respond to a spill involving chemicals.

Containment Technique: Releases of this material may contaminate the environment. Remove all combustible material from spill area. Remove all ignition and spark-creating sources from the spill area. Cover spilled liquid with a commercially available flammable liquid sorbent such as vapor barrier blanket or activated carbon to avoid evolution of fumes. Vapors may travel to a source of ignition and flash back. May be ignited by: heat, sparks, or flames. Dike the material to create a barrier to combustibles.

Clean-up Technique: 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. If permitted by regulation, Scoop up slurry into a large beaker. Dilute with a large excess of water. Filter to remove solids. Flush the spilled material to the drain with a large excess of water. Decontaminate the area of the spill with a soap solution. Otherwise, Dispose of in accordance with local, state and federal regulations or laws.

Evacuation Procedure: Evacuate general area (50 foot radius or as directed by your facility's emergency response plan) when: any quantity is spilled. If conditions warrant, increase the size of the evacuation.

Special Instructions (for accidental release): Product is regulated as RCRA hazardous waste in the U.S.

304 EHS RQ (40 CFR 355): Not applicable

D.O.T. Emergency Response Guide Number: 132

7. HANDLING / STORAGE

Handling: 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.

Storage: Keep away from: oxidizers Protect from: sparks, flames and other ignition sources

Flammability Class: Class IC

8. EXPOSURE CONTROLS / PROTECTIVE EQUIPMENT

Engineering Controls: Maintain general industrial hygiene practices when using this product.

Personal Protective Equipment:

Eye Protection: safety glasses with top and side shields

Skin Protection: disposable latex gloves In the EU, the selected gloves must satisfy the specifications of EU Directive 89/686/EEC and standard EN 374 derived from it. lab coat

Inhalation Protection: adequate ventilation

Precautionary Measures: Avoid contact with: eyes skin clothing Do not breathe: mist/vapor Wash thoroughly after handling. Keep away from: oxidizers Protect from: sparks, flames and other ignition sources

TLV: Not established

PEL: Not established

9. PHYSICAL / CHEMICAL PROPERTIES

Appearance: Dark red liquid
Physical State: Liquid
Molecular Weight: Not applicable
Odor: Fruity
pH: 1.09
Vapor Pressure: Not determined
Vapor Density (air = 1): Not determined
Boiling Point: 118°C
Melting Point: Not determined
Specific Gravity/ Relative Density (water = 1; air =1): 1.01
Evaporation Rate (water = 1): 0.05
Volatile Organic Compounds Content: Not determined
Partition Coefficient (n-octanol / water): Not applicable
Solubility:
 Water: Soluble
 Acid: Soluble
 Other: Not determined
Metal Corrosivity:
 Steel: 0.288 in/yr
 Aluminum: 0.001 in/yr

10. STABILITY / REACTIVITY

Chemical Stability: Stable when stored under proper conditions.
Conditions to Avoid: Contact with heat, sparks, open flames or other ignition sources. Heating to decomposition.
Reactivity / Incompatibility: Incompatible with: oxidizers
Hazardous Decomposition: Toxic fumes of: chlorides carbon monoxide carbon dioxide
Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Product Toxicological Data:
 LD50: ATE (mix) Oral LD50 = 2701 mg/Kg
 LC50: None reported
 Dermal Toxicity Data: None reported
 Skin and Eye Irritation Data: None reported
 Mutation Data: Data reported in RTECS for Isopropanol, Propylene Glycol and Hydroxylamine Hydrochloride
 Reproductive Effects Data: Data reported in RTECS for Isopropanol
Ingredient Toxicological Data: Hydroxylamine Hydrochloride: Oral mouse LD50 = 400 mg/kg, Oral mouse LD50 = 408 mg/kg; Propylene Glycol: Oral rat LD50 = 20 g/kg; Isopropanol: Oral human LDLo = 2770 mg/kg, Oral rat LD50 = 5045 mg/kg

12. ECOLOGICAL INFORMATION

Product Ecological Information: --
No ecological data available for this product. Mobility in soil: No data available
Ingredient Ecological Information: Hydroxylamine Hydrochloride: LC50 *Leuciscus idus* 48h = 1-10 mg/l;

13. DISPOSAL CONSIDERATIONS

EPA Waste ID Number: D001, D002
Special Instructions (Disposal): 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.
Empty Containers: Rinse three times with an appropriate solvent. Dispose of empty container as normal trash.
NOTICE (Disposal): These disposal guidelines are based on federal regulations and may be superseded by more stringent state or local requirements. Please consult your local environmental regulators for more information.

14. TRANSPORT INFORMATION

D.O.T.:

D.O.T. Proper Shipping Name: Flammable Liquid, Corrosive, N.O.S.
(<10% Isopropanol/Hydroxylamine Hydrochloride Solution)

DOT Hazard Class: 3

DOT Subsidiary Risk: 8

DOT ID Number: UN2924

DOT Packing Group: III

I.C.A.O.:

I.C.A.O. Proper Shipping Name: FLAMMABLE LIQUID, CORROSIVE, N.O.S.
(<10% Isopropanol/Hydroxylamine Hydrochloride Solution)

ICAO Hazard Class: 3

ICAO Subsidiary Risk: 8

ICAO ID Number: UN2924

ICAO Packing Group: III

I.M.O.:

I.M.O. Proper Shipping Name: FLAMMABLE LIQUID, CORROSIVE, N.O.S.
(<10% Isopropanol/Hydroxylamine Hydrochloride Solution)

I.M.O. Hazard Class: 3

I.M.O. Subsidiary Risk: 8

I.M.O. ID Number: UN2924

I.M.O. Packing Group: III

Additional Information: There is a possibility that this product could be contained in a reagent set or kit composed of various compatible dangerous goods. If the item is NOT in a set or kit, the classification given above applies. If the item IS part of a set or kit, the classification would change to the following: UN3316 Chemical Kit, Class 9, PG II or III. If the item is not regulated, the Chemical Kit classification does not apply.

15. REGULATORY INFORMATION

U.S. Federal Regulations:

O.S.H.A.: This product meets the criteria for a hazardous substance as defined in the Hazard Communication Standard.
(29 CFR 1910.1200)

E.P.A.:

S.A.R.A. Title III Section 311/312 Categorization (40 CFR 370): Immediate (Acute) Health Hazard Fire Hazard

S.A.R.A. Title III Section 313 (40 CFR 372): This product does NOT contain any chemical subject to the reporting requirements of Section 313 of Title III of SARA.

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302 (EHS) TPQ (40 CFR 355): Not applicable

304 CERCLA RQ (40 CFR 302.4): Not applicable

304 EHS RQ (40 CFR 355): Not applicable

Clean Water Act (40 CFR 116.4): Not applicable

RCRA: Contains RCRA regulated substances. See Section 13, EPA Waste ID Number.

C.P.S.C.: Not applicable

State Regulations:

California Prop. 65: No Prop. 65 listed chemicals are present in this product.

Identification of Prop. 65 Ingredient(s): None

California Perchlorate Rule CCR Title 22 Chap 33: Not applicable

Trade Secret Registry: Not applicable

National Inventories:

U.S. Inventory Status: All ingredients in this product are listed on the TSCA 8(b) Inventory (40 CFR 710).

TSCA CAS Number: Not applicable

16. OTHER INFORMATION

Intended Use: Laboratory Reagent Indicator for hardness

References: 29 CFR 1900 - 1910 (Code of Federal Regulations - Labor). Air Contaminants, Federal Register, Vol. 54, No. 12. Thursday, January 19, 1989. pp. 2332-2983. TLV's Threshold Limit Values and Biological Exposure Indices for 1992-1993. American Conference of Governmental Industrial Hygienists, 1992. Fire Protection Guide on Hazardous

Materials, 10th Ed. Quincy, MA: National Fire Protection Fire Protection Guide on Hazardous Materials, 10th Ed.
Quincy, MA: National Fire Protection Association, 1991. In-house information. Technical Judgment.
Revision Summary: Substantial revision to comply with EU Reg 1272/2008, Reg 1907/2006 and UN GHS (ST/SG/AC.10/36/Add.3).

Legend:

NA - Not Applicable	w/w - weight/weight
ND - Not Determined	w/v - weight/volume
NV - Not Available	v/v - volume/volume

USER RESPONSIBILITY: Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations.

**THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE.
HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA
OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.**

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World Headquarters
Hach Company
P.O.Box 389
Loveland, CO USA 80539
(970) 669-3050

MSDS No: M00635

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: ManVer ® Hardness Indicator
Catalog Number: 42532

Hach Company
P.O.Box 389
Loveland, CO USA 80539
(970) 669-3050

Emergency Telephone Numbers:
(Medical and Transportation)
(303) 623-5716 24 Hour Service
(515)232-2533 8am - 4pm CST

MSDS Number: M00635
Chemical Name: Not applicable
CAS Number: Not applicable
Additional CAS No. (for hydrated forms): Not applicable
Chemical Formula: Not applicable
Chemical Family: Not applicable
Intended Use: Laboratory Reagent Indicator for hardness

2. HAZARDS IDENTIFICATION

GHS Classification:

Hazard categories: Flammable Liquids: Flam. Liq. 3 Corrosive to Metals: Met. Corr. 1 Carcinogenicity: Carc. 2
Respiratory or Skin Sensitization: Skin Sens.1

GHS Label Elements:

WARNING



Hazard statements: Suspected of causing cancer. Flammable liquid and vapour. May be corrosive to metals. May cause an allergic skin reaction. Suspected of causing cancer by inhalation.

Precautionary statements: Keep only in original container. Use personal protective equipment as required. IF ON SKIN: Wash with plenty of soap and water. IF exposed or concerned: Get medical advice/attention. If skin irritation or rash occurs: Get medical advice/attention. Call a POISON CENTER or doctor/physician if you feel unwell. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Avoid breathing dust/fume/gas/mist/vapours/spray. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

HMIS:

Health: 2*

Flammability: 3

Reactivity: 0

Protective Equipment: X - See protective equipment, Section 8.

NFPA:

Health: 1

Flammability: 3

Reactivity: 0

Symbol: Not applicable

WHMIS Hazard Classification: Class D, Division 1, Subdivision B - Toxic material (immediate effects) Class B, Division 2 - Flammable liquids

WHMIS Symbols: Acute Poison Flammable / Combustible

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Components according to GHS:

Isopropanol

CAS Number: 67-63-0

Chemical Formula: C₃H₈O

GHS Classification:

Percent Range: < 5.0

Percent Range Units: volume / volume

PEL: 400 ppm (980 mg/m³)

TLV: 200 ppm (492 mg/m³)

WHMIS Symbols: Flammable / Combustible Other Toxic Effects

Hydroxylamine Hydrochloride

CAS Number: 5470-11-1

Chemical Formula: NH₂OH·HCl

GHS Classification: Met. Corr. 1, H290; Carc. 2, H351; Acute Tox. 4, H312; Acute Tox. 3-Orl, H301; STOT RE 2, H373; Eye Irrit. 2, H319; Skin Irrit. 2, H315; Skin Sens. 1, H317; Aquatic Acute 1, H400

Percent Range: 1.0 - 10.0

Percent Range Units: weight / volume

PEL: 15 mg/m³ as inhalable dust; 5 mg/m³ as respirable dust

TLV: 10 mg/m³ as inhalable dust; 3 mg/m³ as respirable dust

WHMIS Symbols: Acute Poison

Calmagite

CAS Number: 3147-14-6

Chemical Formula: C₁₇H₁₄N₂O₅S·H₂O

GHS Classification: Skin Irrit 2, H315; Eye Irrit 2A, H319; STOT Single 3, H335

Percent Range: < 0.1

Percent Range Units: weight / volume

PEL: Not established

TLV: Not established

WHMIS Symbols: Not applicable

Hazardous Components according to GHS: No

Propylene Glycol

CAS Number: 57-55-6

Chemical Formula: C₃H₈O₂

GHS Classification: Not applicable

Percent Range: 90.0 - 100.0

Percent Range Units: volume / volume

PEL: Not established

TLV: Not established

WHMIS Symbols: Not applicable

4. FIRST AID MEASURES

General Information: In the event of exposure, show this Material Safety Data Sheet and label (where possible) to a doctor.

Advice to doctor: Treat symptomatically.

Eye Contact: Immediately flush eyes with water for 15 minutes. Call physician.

Skin Contact (First Aid): Wash skin with soap and plenty of water. Call physician if irritation develops.

Inhalation: Remove to fresh air.

Ingestion (First Aid): Do not induce vomiting. Give 1-2 glasses of water. Call physician immediately. Never give anything by mouth to an unconscious person.

5. FIRE FIGHTING MEASURES

Flammable Properties: Combustion generates toxic fumes.

Fire Fighting Instruction: As in any fire, wear self-contained breathing apparatus pressure-demand and full protective gear.

Extinguishing Media: Alcohol foam.

Extinguishing Media NOT To Be Used: Not applicable

Fire / Explosion Hazards: May react violently with: strong oxidizers Do not expose to sparks or other ignition sources.

Hazardous Combustion Products: Toxic fumes of: chlorides carbon monoxide, carbon dioxide.

6. ACCIDENTAL RELEASE MEASURES

Spill Response Notice:

Only persons properly qualified to respond to an emergency involving hazardous substances may respond to a spill according to federal regulations (OSHA 29 CFR 1910.120(a)(v)) and per your company's emergency response plan and guidelines/procedures. See Section 13, Special Instructions for disposal assistance. Outside of the US, only persons properly qualified according to state or local regulations should respond to a spill involving chemicals.

Containment Technique: Releases of this material may contaminate the environment. Remove all combustible material from spill area. Remove all ignition and spark-creating sources from the spill area. Cover spilled liquid with a commercially available flammable liquid sorbent such as vapor barrier blanket or activated carbon to avoid evolution of fumes. Vapors may travel to a source of ignition and flash back. May be ignited by: heat, sparks, or flames. Dike the material to create a barrier to combustibles.

Clean-up Technique: 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. If permitted by regulation, Scoop up slurry into a large beaker. Dilute with a large excess of water. Filter to remove solids. Flush the spilled material to the drain with a large excess of water. Decontaminate the area of the spill with a soap solution. Otherwise, Dispose of in accordance with local, state and federal regulations or laws.

Evacuation Procedure: Evacuate general area (50 foot radius or as directed by your facility's emergency response plan) when: any quantity is spilled. If conditions warrant, increase the size of the evacuation.

DOT Emergency Response Guide Number: 132

7. HANDLING AND STORAGE

Handling: 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.

Storage: Keep away from: oxidizers Protect from: sparks, flames and other ignition sources

Flammability Class: Class IC

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls: Maintain general industrial hygiene practices when using this product.

Personal Protective Equipment:

Eye Protection: safety glasses with top and side shields

Skin Protection: disposable latex gloves In the EU, the selected gloves must satisfy the specifications of EU Directive 89/686/EEC and standard EN 374 derived from it. lab coat

Inhalation Protection: adequate ventilation

Precautionary Measures: Avoid contact with: eyes skin clothing Do not breathe: mist/vapor Wash thoroughly after handling. Keep away from: oxidizers Protect from: sparks, flames and other ignition sources

TLV: Not established

PEL: Not established

For Occupational Exposure Limits (OEL) for ingredients, see section 3 - Composition/Information on Ingredients.:

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Dark red liquid

Physical State: Liquid

Molecular Weight: Not applicable

Odor: Fruity

Odor Threshold: Not available

pH: 1.09

Metal Corrosivity:

Corrosivity Classification: Classified as corrosive to metals.

Steel: 0.288 in/yr

Aluminum: 0.001 in/yr

Specific Gravity/ Relative Density (water = 1; air =1): 1.01

Viscosity: Not determined

Solubility:

Water: Soluble

Acid: Soluble

Other: Not determined

Partition Coefficient (n-octanol / water): Not applicable

Coefficient of Water / Oil: Not applicable

Melting Point: Not determined

Decomposition Temperature: Not determined

Boiling Point: 118°C

Vapor Pressure: Not determined

Vapor Density (air = 1): Not determined

Evaporation Rate (water = 1): 0.05

Volatile Organic Compounds Content: Not determined

Flammable Properties: Combustion generates toxic fumes.

Flash Point: 25.7°C (78.3°F)

Method: Closed cup

Flammability Limits:

Lower Explosion Limits: Not determined

Upper Explosion Limits: Not determined

Autoignition Temperature: Not determined

Explosive Properties:

Not classified according to GHS criteria.

Oxidizing Properties:

Not classified according to GHS criteria.

Reactivity Properties:

Not classified as self-reactive, pyrophoric, self-heating or emitting flammable gases in contact with water according to GHS criteria.

Gas under Pressure:

Not classified according to GHS criteria.

10. STABILITY AND REACTIVITY

Chemical Stability: Stable when stored under proper conditions.

Mechanical Impact: None reported

Static Discharge: None reported.

Reactivity/ Incompatibility: Incompatible with: oxidizers

Hazardous Decomposition: Toxic fumes of: chlorides carbon monoxide carbon dioxide

Conditions to Avoid: Contact with heat, sparks, open flames or other ignition sources. Heating to decomposition.

11. TOXICOLOGICAL INFORMATION

Toxicokinetics, Metabolism and Distribution: No information available for mixture.

Toxicologically Synergistic Products: None reported

Acute Toxicity: Acute Toxicity Estimate (ATE) - Calculated from Ingredient Toxicity Data

ATE Oral Rat LD50 = 2701 mg/kg

ATE Dermal Rat LD50 = 20921 mg/kg

Specific Target Organ Toxicity - Single Exposure (STOT-SE): Based on classification principles, the classification criteria are not met.

Specific Target Organ Toxicity - Repeat Exposure (STOT-RE): Based on classification principles, the classification criteria are not met.

Skin Corrosion/Irritation: Irritating to skin.

Eye Damage: Based on classification principles, the classification criteria are not met.

Sensitization: Skin Sensitizer

CMR Effects/Properties (carcinogenic, mutagenic or toxic to reproduction): Contains Listed Carcinogen

Contains < 5% Hydroxylamine Hydrochloride
This product does NOT contain any IARC listed chemicals.
This product does NOT contain any NTP listed chemicals.
This product does NOT contain any OSHA listed carcinogens.

Symptoms/Effects:

Ingestion: Very large doses may cause: central nervous system effects dizziness drowsiness 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 coma.

Inhalation: May cause: irritation of nose and throat

Skin Absorption: Will be absorbed through the skin. Effects similar to those of ingestion

Chronic Effects: Chronic overexposure may cause damage to red blood cells

Medical Conditions Aggravated: Pre-existing: Eye conditions Skin conditions Respiratory conditions

12. ECOLOGICAL INFORMATION

Product Ecological Information: --

No ecological data available for this product. Mobility in soil: No data available

Ingredient Ecological Information: Hydroxylamine Hydrochloride: LC50 *Leuciscus idus* 48h = 1-10 mg/l;

CEPA Statement: Hydroxylamine Hydrochloride, Isopropanol and Calmagite: Persistent, not bioaccumulative or inherently toxic to aquatic organisms; Propylene Glycol: Not persistent, not bioaccumulative or inherently toxic to aquatic organisms.

13. DISPOSAL CONSIDERATIONS

EPA Waste ID Number: D001 D002

Special Instructions (Disposal): 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.

Empty Containers: Rinse three times with an appropriate solvent. Dispose of empty container as normal trash.

NOTICE (Disposal): These disposal guidelines are based on federal regulations and may be superseded by more stringent state or local requirements. Please consult your local environmental regulators for more information. In Europe: Chemical and analysis solutions must be disposed of in compliance with the respective national regulations. Product packaging must be disposed of in compliance with the country-specific regulations or must be passed to a packaging return system.

14. TRANSPORT INFORMATION

D.O.T.:

D.O.T. Proper Shipping Name: Flammable Liquid, Corrosive, N.O.S.

(<10% Isopropanol/Hydroxylamine Hydrochloride Solution)

Hazard Class: 3

Subsidiary Risk: 8

ID Number: UN2924

Packing Group: III

T.D.G.:

Proper Shipping Name: Flammable Liquid, Corrosive, N.O.S.

(<10% Isopropanol/Hydroxylamine Hydrochloride Solution)

Hazard Class: 3.3

Subsidiary Risk: 8

UN Number/PIN: 2924

Packing Group: III

I.C.A.O.:

I.C.A.O. Proper Shipping Name: FLAMMABLE LIQUID, CORROSIVE, N.O.S.

(<10% Isopropanol/Hydroxylamine Hydrochloride Solution)

Hazard Class: 3

Subsidiary Risk: 8

ID Number: UN2924

Packing Group: III

I.M.O.:

Proper Shipping Name: FLAMMABLE LIQUID, CORROSIVE, N.O.S.

(<10% Isopropanol/Hydroxylamine Hydrochloride Solution)

Hazard Class: 3

Subsidiary Risk: 8

ID Number: UN2924

Packing Group: III

Additional Information: There is a possibility that this product could be contained in a reagent set or kit composed of various compatible dangerous goods. If the item is NOT in a set or kit, the classification given above applies. If the item IS part of a set or kit, the classification would change to the following: UN3316 Chemical Kit, Class 9, PG II or III. If the item is not regulated, the Chemical Kit classification does not apply.

15. REGULATORY INFORMATION

U.S. Federal Regulations:

O.S.H.A.: This product meets the criteria for a hazardous substance as defined in the Hazard Communication Standard. (29 CFR 1910.1200)

E.P.A.:

S.A.R.A. Title III Section 311/312 Categorization (40 CFR 370): Immediate (Acute) Health Hazard Fire Hazard

S.A.R.A. Title III Section 313 (40 CFR 372): This product does NOT contain any chemical subject to the reporting requirements of Section 313 of Title III of SARA.

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302 (EHS) TPQ (40 CFR 355): Not applicable

304 CERCLA RQ (40 CFR 302.4): Not applicable

304 EHS RQ (40 CFR 355): Not applicable

Clean Water Act (40 CFR 116.4): Not applicable

RCRA: Contains RCRA regulated substances. See Section 13, EPA Waste ID Number.

State Regulations:

California Prop. 65: No Prop. 65 listed chemicals are present in this product.

Identification of Prop. 65 Ingredient(s): None

California Perchlorate Rule CCR Title 22 Chap 33: Not applicable

Trade Secret Registry: Not applicable

National Inventories:

U.S. Inventory Status: All ingredients in this product are listed on the TSCA 8(b) Inventory (40 CFR 710).

CAS Number: Not applicable

Canadian Inventory Status: All ingredients of this product are DSL Listed.

EEC Inventory Status: All ingredients used to make this product are listed on EINECS / ELINCS.

Australian Inventory (AICS) Status: All ingredients are listed.

New Zealand Inventory (NZIoC) Status: All components either listed or exempt.

Korean Inventory (KECI) Status: Not listed - exempt. Quantity < 100 kg per annum.

Japan (ENCs) Inventory Status: All components either listed or exempt.

China (PRC) Inventory (MEP) Status: All components either listed or exempt.

16. OTHER INFORMATION

References: 29 CFR 1900 - 1910 (Code of Federal Regulations - Labor). Air Contaminants, Federal Register, Vol. 54, No. 12. Thursday, January 19, 1989. pp. 2332-2983. TLV's Threshold Limit Values and Biological Exposure Indices for 1992-1993. American Conference of Governmental Industrial Hygienists, 1992. Fire Protection Guide on Hazardous Materials, 10th Ed. Quincy, MA: National Fire Protection Fire Protection Guide on Hazardous Materials, 10th Ed. Quincy, MA: National Fire Protection Association, 1991. In-house information. Technical Judgment.

Complete Text of H phrases referred to in Section 3: H226 Flammable liquid and vapour. H290 May be corrosive to metals. H351 Suspected of causing cancer. H317 May cause an allergic skin reaction.

Revision Summary: . Substantial revision to comply with EU Reg 1272/2008, Reg 1907/2006 and UN GHS (ST/SG/AC.10/36/Add.3).

Date of MSDS Preparation:

Day: 14

Month: July

Year: 2014

MSDS Prepared: MSDS prepared by Product Compliance Department extension 3350

CCOHS Evaluation Note: It is offered under exemption from WHMIS labeling as specified in the Controlled Products Regulation (CPR) Section 17. It is offered under the interim policy that was established by Health Canada permitting use of GHS-formatted safety data sheets in Canada prior to revision of CPR to GHS. This product has been classified and labeled in accordance with the requirements of GHS (ST/SG/AC.10/36/Add.3). This SDS has been prepared in accordance with the requirements of GHS (ST/SG/AC.10/36/Add.3).

Legend:

NA - Not Applicable	w/w - weight/weight
ND - Not Determined	w/v - weight/volume
NV - Not Available	v/v - volume/volume

USER RESPONSIBILITY: Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations.

**THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE.
HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA
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