

Material Safety Data Sheet
Decalcifying Solution

Section 1 - Chemical Product and Company Identification

MSDS Name:

Decalcifying Solution

Catalog Numbers:

8340, 8340-1

Synonyms:

None Known.

Company Identification:

Richard Allan Scientific
4481 Campus Drive
Kalamazoo, MI 49008

Company Phone Number:

800-522-7270

Emergency Phone Number:

800-424-9300

CHEMTREC Phone Number, US:

(800) 424-9300

CHEMTREC Phone Number, Europe:

(202) 483-7616

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name:	Percent	EINECS/ ELINCS	Hazard Symbols	Risk Phrases
7732-18-5	Water	96-97	231-791-2		
7647-01-0	Hydrogen chloride	3-4	231-595-7	C	34 37
64-02-8	Tetrasodium edta	<0.1	200-573-9		
6106-24-7	Butanedioic acid, 2,3-dihydroxy- [r-(r*,r*)]-, disodium salt	<0.1	Not available		
6381-59-5	Tartrate, potassium sodium	<0.01	206-156-8		

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Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: Colorless clear liquid

Warning! May cause eye, skin, and respiratory tract irritation. Corrosive to metal.

Target Organs: No data found

Potential Health Effects

Eye:

May cause eye irritation.

Skin:

May cause skin irritation.

Ingestion:

May cause irritation of the digestive tract. May cause circulatory system failure.

Inhalation:

May cause respiratory tract irritation. Exposure to the mist and vapor may erode exposed teeth.

Chronic:

Prolonged or repeated skin contact may cause dermatitis. Repeated exposure may cause erosion of teeth. May cause fetal effects. Laboratory experiments have resulted in mutagenic effects. Prolonged exposure may cause conjunctivitis, photosensitization, and possible blindness.

Section 4 - First Aid Measures

Eyes:

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid.

Skin:

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid immediately. Wash clothing before reuse.

Ingestion:

If swallowed, do NOT induce vomiting. Get medical aid immediately. If victim is fully conscious, give a cupful of water. Never give anything by mouth to an unconscious person.

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician:

Do NOT use sodium bicarbonate in an attempt to neutralize the acid. Treat symptomatically and supportively.

Antidote:

Do NOT use oils or ointments in eye.

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Section 5 - Fire Fighting Measures

General Information:

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Water runoff can cause environmental damage. Dike and collect water used to fight fire. Not flammable, but reacts with most metals to form flammable hydrogen gas. Use water spray to keep fire-exposed containers cool. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas. Reaction with water may generate much heat which will increase the concentration of fumes in the air. Containers may explode when heated. Approach fire from upwind to avoid hazardous vapors and toxic decomposition products.

Extinguishing Media:

For large fires, use water spray, fog, or alcohol-resistant foam. Substance is nonflammable; use agent most appropriate to extinguish surrounding fire. Do NOT use straight streams of water. Most foams will react with the material and release corrosive/toxic gases. Cool containers with flooding quantities of water until well after fire is out. For small fires, use carbon dioxide (except for cyanides), dry chemical, dry sand, and alcohol-resistant foam.

Autoignition Temperature:

Not available

Explosion Limits:

Lower: Not available Upper: Not available

Flash Point:

Not available

NFPA Rating:

(estimated) Health: 1; Flammability: 0; Instability: 1

Section 6 - Accidental Release Measures

General Information:

Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks:

Large spills may be neutralized with dilute alkaline solutions of soda ash (sodium carbonate, Na₂CO₃), or lime (calcium oxide, CaO). Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Provide ventilation. Do not get water inside containers. A vapor suppressing foam may be used to reduce vapors. Cover with dry earth, dry sand, or other non-combustible material followed with plastic sheet to minimize spreading and contact with water.

Section 7 - Handling and Storage

Handling:

Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use only in a well-ventilated area. Use with adequate ventilation. Contents may develop pressure upon prolonged storage. Avoid contact with eyes, skin, and clothing. Do not breathe dust, vapor, mist, or gas. Keep container tightly closed. Avoid ingestion and inhalation. Discard contaminated shoes. Use caution when opening. Keep from contact with moist air and steam.

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Storage:

Do not store in direct sunlight. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Corrosives area. Do not store in metal containers. Do not store near flammable or oxidizing substances (especially nitric acid or chlorates). Store away from alkalis.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure Limits

Chemical Name:	ACGIH	NIOSH	OSHA
Water	None listed	None listed	None listed
Hydrogen chloride	2 ppm Ceiling	50 ppm IDLH 5 ppm Ceiling; 7 mg/m3 Ceiling	5 ppm Ceiling; 7 mg/m3 Ceiling;
Tetrasodium edta	None listed	None listed	None listed
Butanedioic acid, 2,3-dihydroxy- [r-(r*,r*)]-, disodium salt	None listed	None listed	None listed
Tartrate, potassium sodium	None listed	None listed	None listed

OSHA Vacated PELs

Personal Protective Equipment

Eyes:

Wear chemical splash goggles.

Skin:

Wear neoprene or polyvinyl chloride gloves to prevent exposure.

Clothing:

Wear appropriate protective clothing to prevent skin exposure.

Respirators:

A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

Section 9 - Physical and Chemical Properties

Physical State: Clear liquid
Color: Colorless
Odor: No information found
pH: 0.74
Vapor Pressure: No information found
Vapor Density: No information found
Evaporation Rate: No information found
Viscosity: No information found

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Boiling Point: No information found
Freezing/Melting Point: No information found
Decomposition Temperature: No information found
Solubility in water: No information found
Specific Gravity/Density: 1.024
Molecular Formula: Solution
Molecular Weight: No information found

Section 10 - Stability and Reactivity

Chemical Stability:

Stable under normal temperatures and pressures.

Conditions to Avoid:

Excess heat

Incompatibilities with Other Materials

Strong oxidizing agents, bases, acetic anhydride, alkali metals, aluminum, amines, copper, copper alloys, fluorine, iron, sodium hydroxide, steel, sulfuric acid, vinyl acetate, zinc, potassium permanganate, cesium acetylene carbide, rubidium acetylene carbide, rubidium carbide, sodium, chlorosulfonic acid, oleum, carbonates, perchloric acid, calcium phosphide, metal oxides, acetates, cesium carbide, beta-propiolactone, ethyleneimine, propylene oxide, lithium silicides, alcohols + hydrogen cyanide, 2-aminoethanol, ammonium hydroxide, calcium carbide, 1,1-difluoroethylene, ethylene diamine, magnesium boride, mercuric sulfate, uranium phosphide

Hazardous Decomposition Products

Hydrogen chloride

Hazardous Polymerization

Will not occur.

Section 11 - Toxicological Information

RTECS:

CAS# 7732-18-5: ZC0110000
CAS# 7647-01-0: MW4025000; MW4031000
CAS# 64-02-8: AH5075000
CAS# 6106-24-7 unlisted
CAS# 6381-59-5 unlisted

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LD50/LC50:

CAS# 7732-18-5:

Oral, rat: LD50 = >90 mL/kg.

CAS# 7647-01-0:

Inhalation, mouse: LC50 = 1108 ppm/1H

Inhalation, mouse: LC50 = 20487 mg/m³/5M

Inhalation, mouse: LC50 = 3940 mg/m³/30M

Inhalation, mouse: LC50 = 8300 mg/m³/30M

Inhalation, rat: LC50 = 3124 ppm/1H

Inhalation, rat: LC50 = 60938 mg/m³/5M

Inhalation, rat: LC50 = 7004 mg/m³/30M

Inhalation, rat: LC50 = 45000 mg/m³/5M

Inhalation, rat: LC50 = 8300 mg/m³/30M

Oral, rabbit: LD50 = 900 mg/kg.

CAS# 64-02-8:

Draize test, rabbit, eye: 1900 ug

Draize test, rabbit, eye: 100 mg/24H Moderate

Draize test, rabbit, skin: 500 mg/24H Moderate.

CAS# 6106-24-7:

No information found

CAS# 6381-59-5:

No information found

Carcinogenicity:

CAS# 7732-18-5: Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

CAS# 7647-01-0: Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

CAS# 64-02-8: Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

CAS# 6106-24-7: Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

CAS# 6381-59-5: Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology:

No information found

Teratogenicity:

No information found

Reproductive:

No information found

Mutagenicity:

No information found

Neurotoxicity:

No information found

Other:

Rinsed with water test: Administration into the eye (rabbit) = 5 mg/30sec (Mild).

Section 12 - Ecological Information

Ecotoxicity:

Fish: Bluegill/Sunfish: 3.6 mg/L; 48 Hr; Lethal (unspecified)

Fish: Bluegill/Sunfish: LD50; 96 Hr; pH 3.0-3.5

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Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Part 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P Series Wastes

None of the components are on this list.

RCRA U Series Wastes

None of the components are on this list.

Section 14 - Transport Information

US DOT

Canadian TDG

Proper Shipping Name: HYDROCHLORIC ACID

HYDROCHLORIC ACID

Hazard Class: 8

8

UN Number: UN1789

UN1789

Packing Group: II

II

USA RQ: CAS# 7647-01-0: 5000 lb final RQ; 2270 kg final RQ

Section 15 - Regulatory Information

US Federal

TSCA

CAS# 7732-18-5 is listed on the TSCA Inventory.

CAS# 7647-01-0 is listed on the TSCA Inventory.

CAS# 64-02-8 is listed on the TSCA Inventory.

CAS# 6106-24-7 is not on the TSCA Inventory because it is a hydrate. It is considered to be listed if the CAS number for the anhydrous form is on the Inventory. (40CFR720.3(u)(2)).

CAS# 6381-59-5 is not on the TSCA Inventory because it is a hydrate. It is considered to be listed if the CAS number for the anhydrous form is on the Inventory. (40CFR720.3(u)(2)).

Health and Safety Reporting List

None of the components are on this list.

Chemical Test Rules

None of the components are on this list.

TSCA Section 12b

None of the components are on this list.

TSCA Significant New Use Rule (SNUR)

None of the components are on this list.

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CERCLA Hazardous Substances and corresponding RQs

CAS# 7647-01-0: 5000 lb final RQ; 2270 kg final RQ

SARA Section 302 Extremely Hazardous Substances

CAS# 7647-01-0: 500 lb TPQ (gas only)

SARA Hazard Categories

CAS# 7647-01-0: immediate.

CAS# 64-02-8: immediate.

CAS# 6381-59-5: immediate.

SARA Section 313

This material contains Hydrogen chloride (CAS# 7647-01-0, 3-4%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 372.

Clean Air Act - Hazardous Air Pollutants (HAPs)

CAS# 7647-01-0 is listed as a hazardous air pollutant (HAP).

Clean Air Act - Class 1 Ozone Depletors

None of the components are on this list.

Clean Air Act - Class 2 Ozone Depletors

None of the components are on this list.

Clean Water Act - Hazardous Substances

CAS# 7647-01-0 is listed as a Hazardous Substance under the CWA.

Clean Water Act - Priority Pollutants

None of the components are on this list.

Clean Water Act - Toxic Pollutants

None of the components are on this list.

OSHA - Highly Hazardous

CAS# 7647-01-0 is considered highly hazardous by OSHA.

OSHA - Specifically Regulated Chemicals

None of the components are on this list.

US State

State Right to Know

Hydrogen chloride can be found on the following state Right-to-Know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

No information found

California Prop 65

None of the components are on this list.

California No Significant Risk Level

None of the components are on this list.

None of the components are on this list.

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European/International Regulations

European Labelling in Accordance with EC Directives:

Hazard Symbols: None listed

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Risk Phrases: None listed
Safety Phrases: S 24/25 Avoid contact with skin and eyes.

WGK (Water Danger/Protection)

No information found

United Kingdom Occupational Exposure Limits

No information found

United Kingdom Maximum Exposure Limits

No information found

Canadian DSL/NDSL

CAS# 7732-18-5 is listed on Canada's DSL List.

CAS# 7647-01-0 is listed on Canada's DSL List.

CAS# 64-02-8 is listed on Canada's DSL List.

Canadian WHMIS Classifications

This product has a WHMIS classification of E.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

CAS# 7647-01-0 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Other Information

Color information has been
MSDS Creation Date: October 21, 2005
Revision Date: October 21, 2005

Revisions were made in Sections:

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This MSDS is intended for review and guidance in the receipt, storage, handling, use and disposal of product purchased from us, and for no other purpose. Use this product only as directed and in accordance with applicable instructions and warnings provided with the product. Please consult your institution's policies regarding use of this product. If you have obtained this MSDS other than in connection with the supply of this product from us, this MSDS should be consulted for general information only, and should not be relied upon for any purpose. As with the use of all hazardous materials, you should in all instances follow the guidance of the MSDS provided or available with the specific product purchased.