Supercedes Date 03/29/2005 **Issuing Date** 08/26/2008

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name DEOX
Recommended Use Cleaning agent

Information on Manufacturer
CHEMSEARCH DIV. OF NCH CORP.
BOX 152170
IRVING, TX 75015

Product Code 0010
Chemical Nature Acidic aqueous solution

Emergency Telephone Number
CHEMTREC ® 800-424-9300

2. HAZARDS IDENTIFICATION

Emergency Overview
Danger
Corrosive
The product causes burns of eyes, skin and mucous membranes
Harmful if inhaled and may cause delayed lung injury
Harmful or fatal if swallowed

Color purple **Physical State** Liquid **Odor** Pungent

Potential Health Effects

Principle Route of Exposure	Skin contact, Eye contact.
Primary Routes of Entry	None known.
Acute Effects	
Eyes	Causes burns. Corrosive to the eyes and may cause severe damage including blindness.
Skin	Causes skin burns.
Inhalation	Causes burns.
Ingestion	Ingestion causes burns of the upper digestive and respiratory tracts. Can burn mouth, throat, and stomach. Harmful or fatal if swallowed.
Chronic Effects	Possible risks of irreversible effects.
Target Organ Effects	Skin, Eyes, Respiratory system.
Aggravated Medical Conditions	Skin disorders. Respiratory disorders.
Potential Environmental Effects	See Section 12 for additional Ecological information

3. COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS-No
Hydrogen chloride	7647-01-0
Citric Acid	77-92-9

4. FIRST AID MEASURES

General Advice	Immediate medical attention is required. Show this safety data sheet to the doctor in attendance. Do not get in eyes, on skin, or on clothing.
Eye Contact	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Get medical attention immediately.
Skin Contact	Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately.
Inhalation	Move to fresh air. If breathing has stopped, apply artificial respiration. Get medical attention immediately.
Ingestion	Drink plenty of water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately.
Notes to Physician	The product causes burns of eyes, skin and mucous membranes. Control of circulatory system, shock therapy if needed.

5. FIRE-FIGHTING MEASURES

Flash Point > 201°F / > 94°C **Method** Tag closed cup
Autoignition Temperature No information available
Flammability Limits in Air Hydrogen **Upper** 75 **Lower** 4

Suitable Extinguishing Media
Water spray. Carbon dioxide (CO2). Alcohol-resistant foam . Dry chemical. The product itself does not burn. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media
None known.

Specific Hazards Arising from the Chemical
The product causes burns of eyes, skin and mucous membranes. Contact with metals liberates hydrogen gas. Thermal decomposition can lead to release of irritating gases and vapours. In the event of fire and/or explosion do not breathe fumes.

Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

NFPA	**Health**	3	**Flammability**	1	**Instability**	0
HMIS	**Health**	3	**Flammability**	1	**Instability**	0

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Evacuate personnel to safe areas. Use personal protective equipment. Avoid contact with skin, eyes, and clothing . Keep people away from and upwind of spill/leak.
Environmental Precautions	Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.
Methods for Containment	No information available
Methods for Cleaning Up	Wear suitable protective equipment. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Pick up and transfer to properly labelled containers. Clean contaminated surface thoroughly. After cleaning, flush away traces with water.

Neutralizing Agent Neutralize with the following product(s): soda ash or alkaline solution

7. HANDLING AND STORAGE

Handling Wear personal protective equipment. Do not get in eyes, on skin, or on clothing. Ensure adequate ventilation.

Storage Keep out of the reach of children. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labelled containers. Metal containers must be lined. Do not freeze.

Storage Temperature **Minimum** 35°F / 2°C **Maximum** 100°F / 38°C

Storage Conditions **Indoor** X **Outdoor** X **Heated** **Refrigerated**

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH
Hydrogen chloride	Ceiling: 2 ppm	Ceiling: 5 ppm Ceiling: 7 mg/m^3	IDLH: 50 ppm Ceiling: 7 mg/m^3 Ceiling: 5 ppm
Citric Acid	No data available	no data available	no data available

Engineering Measures Ensure adequate ventilation, especially in confined areas.

Personal Protective Equipment

Eye/Face Protection Tightly fitting safety goggles. Face-shield.

Skin Protection Impervious clothing. Impervious gloves. Boots. Chemical resistant apron.

Respiratory Protection When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. In case of inadequate ventilation wear respiratory protection.

General Hygiene Considerations Ensure that eyewash stations and safety showers are close to the workstation location. Remove and wash contaminated clothing before re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid	**Viscosity**	Non viscous
Color	purple	**Odor**	Pungent
Appearance	Transparent	**pH**	0.7
Specific Gravity	1.04	**Bulk Density**	No data available
Evaporation Rate	0.59 (Butyl acetate=1)	**Percent Volatile (Volume)**	99
VOC Content (%)	0	**Vapor Pressure**	16.52 mmHg @ 70 °F
Vapor Density	0.6	**Solubility**	Completely soluble
Boiling Point/Range	220°F / 104°C		

10. STABILITY AND REACTIVITY

Chemical Stability Stable under normal conditions

Conditions to Avoid Contact with metals liberates hydrogen gas.

Incompatible Products Incompatible with oxidizing agents. Strong bases. Metals.

Hazardous Decomposition Products Carbon oxides. Hydrogen.

Possibility of Hazardous Reactions None under normal processing

11. TOXICOLOGICAL INFORMATION

Product Information No information available

Component Information

Acute toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation	Draize Test	Other
Hydrogen chloride	700 mg/kg (Rat)	5010 mg/kg (Rabbit)	3124 ppm (Rat) 1 h	no data available	no data available
Citric Acid	3000 mg/kg (Rat)	no data available	no data available	no data available	no data available

Chronic Toxicity

Component	Mutagenicity	Sensitization	Developmental Toxicity	Reproductive Toxicity	Target Organ Effects
Hydrogen chloride	no data available	no data available	no data available	no data available	skin, eyes, respiratory system
Citric Acid	no data available	no data available	no data available	no data available	no data available

Carcinogenicity .

Component	ACGIH	IARC	NTP	OSHA	Other
Hydrogen chloride	not applicable	not applicable	not applicable	not applicable	not applicable
Citric Acid	not applicable	not applicable	not applicable	not applicable	not applicable

12. ECOLOGICAL INFORMATION

Product Information The product itself has not been tested

Component Information

Component	Toxicity to Algae	Toxicity to Fish	Microtox	Water Flea	log Pow
Hydrogen chloride	no data available	LC50= 282 mg/L Gambusia affinis 96 h LC50= 3.6 mg/L Lepomis macrochirus 48 h	no data available	no data available	N/A
Citric Acid	no data available	LC50= 1516 mg/L Lepomis macrochirus 96 h LC50= 440 mg/L Leuciscus idus 96 h	EC50 = 14 mg/L 15 min	EC50 = 120 mg/L 72 h	-1.72

Persistence and Degradability No information available

Bioaccumulation No information available

Mobility No information available

13. DISPOSAL CONSIDERATIONS

Product Disposal Dispose of in accordance with local regulations
Container Disposal Empty containers should be taken for local recycling, recovery or waste disposal

14. TRANSPORT INFORMATION

DOT

Proper Shipping Name Corrosive liquid, acidic, organic, n.o.s.
Hazard Class 8
UN-No UN3265
Packing Group II
Description Corrosive liquid, acidic, organic, n.o.s., (Hydrochloric Acid, Citric Acid),8,UN3265,PG II

TDG

Proper shipping name Corrosive liquid, acidic, organic, n.o.s.
Hazard Class 8
UN-No UN3265
Packing Group II
Description CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. , (Hydrochloric Acid, Citric Acid),8,UN3265,PG II

ICAO

UN-No UN3265
Proper Shipping Name Corrosive liquid, acidic, organic, n.o.s.*
Hazard Class 8
Packing Group II
Shipping Description Corrosive liquid, acidic, organic, n.o.s., (Hydrochloric Acid, Citric Acid),8,UN3265,PG II

IATA

UN-No UN3265
Proper Shipping Name Corrosive liquid, acidic, organic, n.o.s.*
Hazard Class 8
Packing Group II
ERG Code 8L
Shipping Description UN3265,Corrosive liquid, acidic, organic, n.o.s., , (Hydrochloric Acid, Citric Acid),8,PG II

IMDG/IMO

Proper Shipping Name Corrosive liquid, acidic, organic, n.o.s.
Hazard Class 8
UN-No UN3265
Packing Group II
EmS No. F-A, S-B
Shipping Description UN3265, Corrosive liquid, acidic, organic, n.o.s., , (Hydrochloric Acid, Citric Acid), 8,PG II

15. REGULATORY INFORMATION

Inventories
TSCA Complies
DSL Complies

U.S. Federal Regulations
SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and and Title 40n of the Code of Federal Regulations, Part 372:

Component	CAS-No	Weight %	SARA 313 - Threshold Values
Hydrogen chloride	7647-01-0	5-10	1.0

SARA 311/312 Hazardous Categorization

Acute Health Hazard	Chronic Health Hazard	Fire Hazard	Sudden Release of Pressure Hazard	Reactive Hazard
Yes	No	No	No	No

CERCLA

Component	Hazardous Substances RQs	CERCLA EHS RQs
Hydrogen chloride	5000 lb	= 500 lb TPQ gas only
Citric Acid	Not applicable	Not applicable

Canada
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.
WHMIS Hazard Class
E Corrosive material .

16. OTHER INFORMATION

Prepared By Kamal Singh
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Reason for Revision	No information available
Glossary	No information available
List of References	No information available

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