



The MSDS format adheres to the standards and regulatory requirements of the United States and may not meet regulatory requirements in other countries.

Zaclon LLC  
Material Safety Data Sheet

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9560CR                    -"QUILON" Chromium Complexes  
                              Revised 11-OCT-2008  
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-CHEMICAL PRODUCT/COMPANY IDENTIFICATION  
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-Material Identification

"QUILON" is a registered trademark of Zaclon LLC.  
CAS Name                    : "Quilon" Chrome Complex  
Grade                        : C-9; H; S

Tradenames and Synonyms

CHROME COMPLEX OF MYRISTIC OR STEARIC ACID  
MYRISTO OR STEARATO CHROMIC CHLORIDE

Company Identification

MANUFACTURER/DISTRIBUTOR  
Zaclon LLC  
2981 Independence Road  
  
Cleveland, Ohio 44115

Product Information        : 216-271-1601 or 800-356-7327  
Transport Emergency       : CHEMTREC: 1-800-424-9300  
Medical Emergency         :

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COMPOSITION/INFORMATION ON INGREDIENTS  
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Components

Material	CAS Number	%
ISOPROPYL ALCOHOL	67-63-0	30-61
ACETONE	67-64-1	10-16
*"QUILON"		5.7-9.2
Chromium III CHLORIDE COMPLEXES OF MYRISTIC AND STEARIC ACIDS, AS Cr		
CHLOROACETONE	78-95-5	0.3
ISOPROPYL CHLORIDE**	75-29-6	
WATER	7732-18-5	3.7-13

\* Disclosure as a toxic chemical is required under Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR part 372.

(COMPOSITION/INFORMATION ON INGREDIENTS - Continued)

Components (Remarks)

GRADES....CAS Number

"QUILON" C-9.. 65229-24-5  
Chromium, Pentahydroxy (Tetradecanoato) Di-

"QUILON" S....15242-96-3  
Predominately Chromium Chloride Hydroxide  
Octadecanoate (2:4:1:1)

"QUILON" H is a mixture of 15659-56-0 and 15242-96-3  
Mixtures of Tetra- and Octa- Decanoates

\*\*Isopropyl Chloride is in equilibrium with isopropyl  
alcohol and the chloride ion.

The percentages for the components are grade-dependent.

NOTE:

A small amount of the chromium (III) chloride is hydrolyzed  
to give hydrochloric acid. See pH in the Physical Data  
Section.

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HAZARDS IDENTIFICATION  
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Potential Health Effects

Causes eye burns. Causes irritation of the skin, nose and  
throat.

HUMAN HEALTH EFFECTS:

Skin contact may cause skin irritation with discomfort or  
rash. There are rare inconclusive reports of human  
sensitization from skin contact with Isopropyl Alcohol.  
Repeated and/or prolonged exposure may cause: Defatting of  
the skin with itching, redness or rash. Fabrics treated with  
Quilon are not skin sensitizers in humans.

Eye contact may cause eye corrosion with corneal or  
conjunctival ulceration, pain or blurred vision.

Exposure to the product mists or vapors may cause irritation  
of the skin and eyes.

Inhalation may cause irritation of the respiratory tract  
with coughing and discomfort; or temporary central nervous  
system depression with anaesthetic effects such as  
dizziness, headache, confusion, incoordination, drowsiness,  
and loss of consciousness.

(HAZARDS IDENTIFICATION - Continued)

Ingestion may cause irritation of the digestive tract with stomach pain, heartburn, nausea, vomiting or diarrhea; or temporary central nervous system depression; however there may be no symptoms at all.

Inhalation, ingestion, or skin contact to isopropyl alcohol may cause nonspecific effects such as headache, nausea and weakness, flushing of the face, or low blood pressure.

Isopropyl chloride has been associated with abnormal liver and kidney function and temporary alteration of the heart's electrical activity with irregular pulse, palpitations, or inadequate circulation.

Carcinogenicity Information

None of the components present in this material at concentrations equal to or greater than 0.19 are listed by IARC, NTP, OSHA or ACGIH as a carcinogen.

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FIRST AID MEASURES  
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First Aid

INHALATION

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

SKIN CONTACT

Flush skin with water after contact. Wash contaminated clothing before reuse.

EYE CONTACT

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

INGESTION

If swallowed, do not induce vomiting. Give two glasses of water or activated charcoal slurry. Call a physician.  
Never give anything by mouth to an unconscious person.

NOTE:

To prepare activated charcoal slurry, suspend 50 gm of activated charcoal in 400 mL of water in a bottle and shake well. Give 5 mL/kg of body weight, or 350 mL for an average adult.

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FIRE FIGHTING MEASURES  
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Flammable Properties

Flash Point	. -3 to 4 C (27-39 F)
Method	TOC
Flammable limits in Air, %by Volume	
LEL	: 2
UEL Autoignition	12
Autodecomposition	>399 C (>750 F) Not available

Actual Autoignition Temperatures (AIT's) can be affected by the concentration of vapors and oxygen, vapor/air contact time, pressure, volume, catalytic impurities, etc. Process conditions should be analyzed to determine if the AIT may be higher or lower.

Fire and Explosion Hazards:

OSHA Class 1B Flammable Liquid. Follow appropriate National Fire Protection Association (NFPA) codes for handling and storage facilities.

Extinguishing Media

Water, Dry Chemical.

"Alcohol" Foam. Carbon Dioxide (CO2).

Fire Fighting Instructions

Evacuate personnel to a safe area. Cool tank/container with water spray.

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ACCIDENTAL RELEASE MEASURES  
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Safeguards (Personnel)

NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

Evacuate personnel, thoroughly ventilate area, use self-contained breathing apparatus.

Initial Containment

Remove source of heat, sparks, flame, impact, friction or electricity.

Spill Clean Up

Discarded material is a RCRA Hazardous waste.

(ACCIDENTAL RELEASE MEASURES - Continued)

Accidental Release Measures

Wear protective clothing. Dike spill; soak up with sand, earth, or other non-combustible absorbent material and dispose of in covered metal containers. Prevent liquid from entering sewers, waterways, or low area. After bulk removal, flush spill area with plenty of water.

If "QUILON" CHROMIUM COMPLEXES is spilled and not recovered, or is recovered as a waste for treatment or disposal, the CERCLA Reportable Quantity is 100 lbs. for the product and 10 lbs. for Chromium Compounds (release of an unlisted Hazardous waste characteristic of ignitibility and unlisted Hazardous waste characteristic of toxicity). The CERCLA Reportable Quantity for acetone is 5,000 lbs.

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HANDLING AND STORAGE

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Handling (Personnel)

Do not get in eyes. Avoid breathing vapors or mist. Wash thoroughly after handling.

Avoid contact with skin and clothing.

Storage

Keep away from heat, sparks, and flame. Keep containers tightly closed and in an upright position. Do not store or mix with oxidizing agents.

Best temperature for stability is below 32 deg C (90 deg F) and above freezing point.

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EXPOSURE CONTROLS/PERSONAL PROTECTION

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Engineering Controls

Good general ventilation should be provided to keep component concentrations below the recommended exposure limits and avoid flammable mixtures with air. Use explosion-proof motors, electrical fittings, and nonsparking tools and equipment. Containers should be grounded.

Personal Protective Equipment

Have available and wear as appropriate to prevent eye or skin contact: coverall chemical splash goggles, safety glasses with side shields, and neoprene, polyvinylchloride, or nitrile gloves. Wear flame resistant clothing. If direct inhalation exposure is likely, wear NIOSH approved respiratory protection.

(EXPOSURE CONTROLS/PERSONAL PROTECTION - Continued)

# Exposure Guidelines

Exposure Limits

"QUILON" Chromium Complexes

PEL (OSHA) : 0.5 mg/m3, as Cr, 8 Hr. TWA  
TLV (ACGIH) : 0.5 mg/m3, as Cr, 8 Hr. TWA  
AEL \* (Zaclon LLC) : 0.5 mg/m3, as Cr, 8 Hr. TWA

Other Applicable Exposure Limits

ISOPROPYL ALCOHOL

PEL (OSHA) 400 ppm, 980 mg/m3, 8 Hr. TWA  
TLV (ACGIH) 200 ppm, 8 Hr. TWA, A4  
STEL 400 ppm  
AEL \* (Zaclon LLC) 200 ppm, 8 & 12 Hr. TWA

ACETONE

PEL (OSHA) 1000 ppm, 2400 mg/m3, 8 Hr. TWA  
TLV (ACGIH) 500 ppm, 1188 mg/m3, 8 Hr. TWA, A4  
STEL 750 ppm, 1782 mg/m3, A4  
AEL \* (Zaclon LLC) 500 ppm, 8 & 12 Hr. TWA

CHLOROACETONE

PEL (OSHA) None Established  
TLV (ACGIH) Ceiling 1 ppm, 3.8 mg/m3, Skin  
AEL \* (Zaclon LLC) None Established

\* AEL is Zaclon LLC's Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits which are lower than the AEL are in effect, such limits shall take precedence.

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PHYSICAL AND CHEMICAL PROPERTIES  
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Physical Data

Boiling Point 82 C (180 F) @ 760 mm Hg  
Vapor Pressure Not available  
Vapor Density . -2 (Air = 1)  
Evaporation Rate (Butyl Acetate = 1)  
Solubility in Water Greater than 1  
pH 1009 Miscible  
Odor 2.6-2.7 (in 19 water solution)  
Form Alcoholic  
Form . Liquid  
Color Dark green or blue-green

Specific Gravity : "QUILON" C-9, H = 1.04  
"QUILON" S = 0.93-0.97

Volatile Organic Compounds  
(VOC) : "QUILON" C-9 = 389

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STABILITY AND REACTIVITY  
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Chemical Stability

Stable.

Incompatibility with Other Materials

Incompatible with oxidizing agents.

Decomposition

Decomposes with heat; solvent vapors and gaseous hydrogen chloride will be emitted.

Other Hazards

Polymerization : Polymerization will occur with water.

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TOXICOLOGICAL INFORMATION  
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Animal Data

QUILON CHROME COMPLEX:

Oral ALD: 7500 mg/kg in rats Inhalation  
4 hour ALC: 18 mg/L in rats

Isopropyl Alcohol:

Oral LD50: 4,700 mg/kg in rats  
Inhalation 4 hour LC50: 16,000 ppm in rats  
Skin Absorption LD50: 12,900 mg/kg in rabbits

Acetone:

Oral LD50, rat: 9,750 mg/kg  
Inhalation 4 hour, LC50, rat: 31,983 ppm  
Dermal LD50, rabbit: 20,000 mg/kg

These products are corrosive to the eye and are mild to moderate skin irritants. Toxic effects in animals from ingestion exposures include severe stomach irritation (gastritis) Although some Chromium Compounds (VI) have demonstrated carcinogenic activity in animals, Chromium (III) Compounds have not.

The effects in animals from single ingestion exposure to ISOPROPYL ALCOHOL at near lethal doses include histopathological changes of the stomach, lungs, kidneys, incoordination, lethargy, gastrointestinal tract irritation, inactivity or anaesthesia. Long-term ingestion exposure caused incoordination, lethargy, and reduced weight gain. The effects in animals from single exposure by inhalation

(TOXICOLOGICAL INFORMATION - Continued)

include inactivity or anaesthesia, histopathological changes of the nasal cavity, and auditory canal. Repeated inhalation exposure caused narcosis, incoordination, and degeneration of the liver. No adequate animal data are available to define the carcinogenic potential of isopropyl alcohol. Animal data show developmental effects only at exposure levels of isopropyl alcohol producing other toxic effects in the adult animal; reproductive data on rats show no change in reproductive performance. Tests have shown that isopropyl alcohol does not cause genetic damage in bacterial or mammalian cell cultures, or in animals.

Repeated dermal exposure of animals to ACETONE caused dry skin and cataracts. Long-term dermal exposure caused no significant toxicological effects.

Repeated ingestion exposure to high doses of ACETONE caused kidney injury, reduced weight gain, and liver, hematological and testicular effects.

Single and repeated exposure by inhalation to high doses caused central nervous system depression, and decreased motor activity. Repeated exposures to higher concentrations caused incoordination and reduced weight gain.

In animal testing ACETONE has not caused carcinogenicity. Limited data on the exposure of pregnant rats to ACETONE show developmental toxicity only at exposure levels producing other toxic effects in the adult animal. Limited data on the exposure of pregnant mice to ACETONE show a reduction of fetal body weight and an increase in the incidence of late resorptions.

The NOEL (No-Observed-Effect-Level) for developmental toxicity in the rat and mouse study was 2200 ppm. Limited data on the exposure of rats and mice to ACETONE show reproductive toxicity only at exposure levels producing other toxic effects in the adult animal. ACETONE does not cause genetic damage in bacterial cells. Test in mammalian cell cultures have been both positive and negative. Testing in yeast has also produced positive results.

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ECOLOGICAL INFORMATION  
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Ecotoxicological Information

Aquatic Toxicity

"QUILON" . 96-hour LC50, fathead minnows:  
460 mg/L. The toxicity of "QUILON" is  
pH dependent and may not indicate the  
true toxicity of the chromium complex.

(ECOLOGICAL INFORMATION - Continued)

Acetone: 96-hour LC50 - Bluegill sunfish: 8300 ppm  
96 hour LC50 - Fathead minnows: 7280-8120 mg/L  
48 hour LC50 - Daphnia magna: 39,000 ppm  
Isopropyl Alcohol: 96-hour LC50, fathead minnows:  
3,200 mg/L

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DISPOSAL CONSIDERATIONS  
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Waste Disposal

Treatment, storage, transportation and disposal must be in accordance with applicable Federal, State, and local regulations.

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TRANSPORTATION INFORMATION  
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Shipping Information

DOT/IMO/IATA  
Proper Shipping Name Flammable Liquid, N.O.S. (Isopropanol and Acetone)  
Hazard Class : 3  
UN No. 1993  
Packing Group II  
Label(s) Flammable Liquid

Shipping Containers

Tank Trucks.  
Steel Drums : 15 and 55 gallon with removable polyethylene liner  
Portable Tank 300 gallon  
Polyethylene Drum 55 gallon  
Reportable Quantity Acetone = 5,000 lbs/2,270 kg

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REGULATORY INFORMATION  
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U.S. Federal Regulations

TSCA Inventory Status Reported/Included.  
TITLE III HAZARD CLASSIFICATIONS SECTIONS 311, 312  
Acute : Yes  
Chronic : No  
Fire : Yes  
Reactivity : No  
Pressure : No

(REGULATORY INFORMATION - Continued)

LISTS:

Extremely Hazardous Substance	-No
CERCLA Hazardous Material	-(*)
Toxic Chemicals	-(Yes)**

\*See Disposal Information.

\*\*Chromium Compound component.

"QUILON" Chromium Complexes are a flammable liquid as defined by OSHA in 29 CFR 1910.1200(c). Use of this product may require compliance with 29 CFR 1910.119, Process Safety Management of Highly Hazardous Chemicals.

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OTHER INFORMATION

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NFPA, NPCA-HMIS

NPCA-HMIS Rating	
Health	3
Flammability	3
Reactivity	1

Personal Protection rating to be supplied by user depending on use conditions.

Additional Information

"Skin" notation in the Exposure Limits section indicates that chloroacetone liquid and vapor can penetrate skin and mucous membranes. Therefore control of inhalation alone may not be sufficient to prevent an excessive dose; skin contact should be avoided.

For further information, see "QUILON" Properties, Uses, Storage and Handling Bulletin.

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The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

Responsible for MSDS : John L Curry  
> : Zaclon LLC Chemical Solutions Enterprise  
Address : 2981 Independence Road, Cleveland Ohio 44115  
Telephone : 216-271-1454

# Indicates updated section.

This information is based upon technical information believed to be reliable. It is subject to revision as additional knowledge and experience is gained.

End of MSDS