Material Safety Data Sheet
Chromyl chloride, 99+%

ACC# 07774

Section 1 - Chemical Product and Company Identification

MSDS Name: Chromyl chloride, 99+%
Catalog Numbers: AC190460000, AC190460100, AC190460250
Synonyms: Chromic oxychloride, Chromium chloride oxide, Chromium dioxychloride; Chromium oxychloride; Dichlorodioxochromium; Chlorochromic anhydride; Chromium dichloride dioxide; Chromium dioxide dichloride.
Company Identification:

Acros Organics N.V.
One Reagent Lane
Fair Lawn, NJ 07410

For information in North America, call: 800-ACROS-01
For emergencies in the US, call CHEMTREC: 800-424-9300

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
14977-61-8	Chromyl chloride	> 99	239-056-8

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: dark red liquid.
Danger! Corrosive. Causes eye and skin burns. Strong oxidizer. Contact with other material may cause a fire. Water-reactive. May cause allergic skin reaction. Cancer suspect agent. May cause severe respiratory tract irritation with possible burns. May cause severe digestive tract irritation with possible burns. Light sensitive. Corrosive to metal.
Target Organs: Kidneys, liver, lungs, respiratory system, eyes, skin.

Potential Health Effects
Eye: Causes eye burns. Vapors cause eye irritation.
Skin: Causes skin burns. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. May cause blistering of the skin.
Ingestion: May cause severe and permanent damage to the digestive tract.
Inhalation: May cause severe allergic respiratory reaction. Causes chemical burns to the respiratory tract.
Chronic: May cause liver and kidney damage. Chronic exposure to water insoluble hexavalent chromium compounds has been shown to be associated with lung cancer and gastrointestinal tract tumors.

Section 4 - First Aid Measures

Eyes: In case of contact, immediately flush eyes with plenty of water for a t least 15 minutes. Get medical aid immediately.
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: Treat symptomatically and supportively.

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. Strong oxidizer. Contact with other material may cause fire. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Water Reactive. Material will react with water and may release a flammable and/or toxic gas. Containers may explode in the heat of a fire. Contact with metals may evolve flammable hydrogen gas. Use water spray to knock down acid vapors.
Extinguishing Media: Use extinguishing media most appropriate for the surrounding fire. If water is the only media available, use in flooding amounts. Do NOT get water inside containers. Contact professional fire-fighters immediately. Cool containers with flooding quantities of water until well after fire is out. For small fires, use dry chemical or carbon dioxide.
Flash Point: Not applicable.
Autoignition Temperature: Not available.
Explosion Limits, Lower:N/A
Upper: N/A
NFPA Rating: (estimated) Health: 3; Flammability: 0; Instability: 2; Special Hazard: -W-; Special Hazard: OX

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks: Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Remove all sources of ignition. Absorb spill using an absorbent, non-combustible material such as earth, sand, or vermiculite. Do not use combustible materials such as sawdust. Provide ventilation. Do not expose spill to water. Do not get water inside containers.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Do not get in eyes, on skin, or on clothing. Keep container tightly closed. Avoid contact with clothing and other combustible materials. Avoid ingestion and inhalation. Discard contaminated shoes. Use only with adequate ventilation.
Storage: Do not store near combustible materials. Keep container closed when not in use. Store in a cool, dry, well-ventilated area away from incompatible substances. Corrosives area. Water free area. Do not store in metal containers. Store protected from light. Containers may be glass, aluminum, stainless steel.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Use process enclosure, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Chromyl chloride	0.025 ppm TWA	0.001 mg/m3 TWA (as Cr(VI))	none listed

OSHA Vacated PELs: Chromyl chloride: No OSHA Vacated PELs are listed for this chemical.
Personal Protective Equipment
Eyes: Wear chemical splash goggles.
Skin: Wear appropriate protective gloves to prevent skin exposure.
Clothing: Wear appropriate protective clothing to prevent skin exposure.
Respirators: Wear a NIOSH/MSHA or European Standard EN 149 approved full-facepiece airline respirator in the positive pressure mode with emergency escape provisions.

Section 9 - Physical and Chemical Properties

Physical State: Liquid
Appearance: dark red
Odor: acrid odor - pungent odor
pH: Not available.
Vapor Pressure: 20 mm Hg @ 20 deg C
Vapor Density: 5.3 (Air=1)
Evaporation Rate: Not available.
Viscosity: Slightly
Boiling Point: 117 deg C
Freezing/Melting Point:-96.5 deg C
Decomposition Temperature: Not available.
Solubility: reacts
Specific Gravity/Density:1.9100g/cm3
Molecular Formula: Cl2CrO2
Molecular Weight:154.90

Section 10 - Stability and Reactivity

Chemical Stability: Decomposes on exposure to light. Fumes in moist air. Reacts with water to form chromic acid, chromic chloride, HCl and chlorine.
Conditions to Avoid: Light, moisture.
Incompatibilities with Other Materials: Ammonia, sodium azide, urea, metals, phosphorus, strong reducing agents, combustible materials, water, turpentine, alcohols, acetone, organic matter, halides, sulfur, phosphorus trichloride.
Hazardous Decomposition Products: Hydrogen chloride, chlorine, toxic chromium oxide fumes.
Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:
CAS# 14977-61-8: GB5775000
LD50/LC50:
Not available.

Carcinogenicity:
CAS# 14977-61-8:

- **ACGIH:** Not listed.
- **California:** carcinogen, initial date 2/27/87 (listed as Chromium (VI) compounds).
- **NTP:** Known carcinogen (listed as Chromium (VI) compounds).

- **IARC:** Group 1 carcinogen (listed as Chromium (VI) compounds).

Epidemiology: Certain hexavalent chromium compounds have been demonstrated to be carcinogenic on the basis of epidemiological investigations on workers and experimental studies in animals.
Teratogenicity: No information available.
Reproductive Effects: No information available.
Mutagenicity: See actual entry in RTECS for complete information.
Neurotoxicity: No information available.
Other Studies:

Section 12 - Ecological Information

Ecotoxicity: No data available. No information available.
Environmental: Terrestrial: Low mobility due to adsorption into soil. Aquatic: Will settle in sediment or remain suspended. Atmospheric: Particulates eventually settle out, no reactions involved. Bioconcentration is a minor factor in the fate process. Will not biodegrade.
Physical: No information available.
Other: No information available.

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 Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.
RCRA P-Series: None listed.
RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	DOT regulated - small quantity provisions apply (see 49CFR173.4)	No information available.
Hazard Class:		
UN Number:		
Packing Group:		

Section 15 - Regulatory Information

US FEDERAL

TSCA
CAS# 14977-61-8 is listed on the TSCA inventory.
Health & Safety Reporting List
None of the chemicals are on the Health & Safety Reporting List.
Chemical Test Rules
None of the chemicals in this product are under a Chemical Test Rule.
Section 12b
None of the chemicals are listed under TSCA Section 12b.
TSCA Significant New Use Rule
None of the chemicals in this material have a SNUR under TSCA.
CERCLA Hazardous Substances and corresponding RQs
None of the chemicals in this material have an RQ.
SARA Section 302 Extremely Hazardous Substances
None of the chemicals in this product have a TPQ.
SARA Codes
CAS # 14977-61-8: immediate, delayed, fire, reactive.
Section 313
This material contains Chromyl chloride (listed as Chromium (VI) compounds), > 99%, (CAS# 14977-61-8) which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.
Clean Air Act:
This material does not contain any hazardous air pollutants.
This material does not contain any Class 1 Ozone depletors.
This material does not contain any Class 2 Ozone depletors.
Clean Water Act:
None of the chemicals in this product are listed as Hazardous Substances under the CWA.
None of the chemicals in this product are listed as Priority Pollutants under the CWA.
None of the chemicals in this product are listed as Toxic Pollutants under the CWA.
OSHA:
None of the chemicals in this product are considered highly hazardous by OSHA.
STATE
CAS# 14977-61-8 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

California Prop 65
The following statement(s) is(are) made in order to comply with the California Safe Drinking Water Act:
WARNING: This product contains Chromyl chloride, listed as `Chromium (VI) compounds', a chemical known to the state of California to

cause cancer.
California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

T O C N

Risk Phrases:

R 35 Causes severe burns.
R 43 May cause sensitization by skin contact.
R 46 May cause heritable genetic damage.
R 8 Contact with combustible material may cause fire.
R 49 May cause cancer by inhalation.
R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety Phrases:

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S 53 Avoid exposure - obtain special instructions before use.
S 60 This material and its container must be disposed of as hazardou s waste.
S 61 Avoid release to the environment. Refer to special instructions /safety data sheets.

WGK (Water Danger/Protection)

CAS# 14977-61-8: 3

Canada - DSL/NDSL

CAS# 14977-61-8 is listed on Canada's NDSL List.

Canada - WHMIS

This product has a WHMIS classification of C, E, D2A.
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# 14977-61-8 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 2/17/1998
Revision #5 Date: 3/04/2004