Material Safety Data Sheet
Chloroform

ACC# 95515

Section 1 - Chemical Product and Company Identification

MSDS Name: Chloroform
Catalog Numbers: AC167730000, AC167730010, AC167730025, AC167735000, AC268320000, AC268320010 AC268320010, AC268320025, AC326670000, AC326670010, AC326670025, AC326820000 AC326820000, AC326820010, AC326821000, AC364320000, AC364320010, AC364321000 AC364321000, AC383760000, AC383760010, AC383760025, AC383760050, AC383770000 AC383770000, AC383770010, AC383770025
Synonyms:
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
67-66-3	Chloroform	>99%	200-663-8

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: APHA: 10 max clear liquid.
Light sensitive.
Target Organs: Kidneys, heart, central nervous system, liver.

Potential Health Effects
Eye: Vapors may cause eye irritation. Contact produces irritation, tearing, and burning pain. May cause conjunctivitis. Causes redness and pain.
Skin: Prolonged and/or repeated contact may cause irritation and/or dermatitis. May cause severe skin irritation with possible burns, especially if skin is wet or moist. Causes redness and pain. Absorption of liquid through intact skin is possible and may cause systemic poisoning if contact with liquid is prolonged.
Ingestion: Harmful if swallowed. May cause central nervous system depression, kidney damage, and liver damage. May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May cause cardiac disturbances.
Inhalation: Inhalation of high concentrations may cause central nervous system effects characterized by nausea, headache, dizziness, unconsciousness and coma. Causes respiratory tract irritation. May cause liver and kidney damage. May cause cardiac sensitization and possible failure. May cause narcotic effects in high concentration.
Chronic: Possible cancer hazard based on tests with laboratory animals. Prolonged or repeated skin contact may cause dermatitis. Prolonged or repeated exposure may cause adverse reproductive effects. May cause liver and kidney damage. Toxicity may be increased by exposure to alcohol, steroids, and ketones. Chronic exposure to chloroform has been associated with an increased incidence of kidney, liver, rectal, bladder, colon, brain and lymph node cancer. Animal studies have shown fetal loss, delays in fetal development and cleft

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid imme diately. Do NOT allow victim to rub eyes or keep eyes closed.
Skin: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
Ingestion: Get medical aid. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water. Wash mouth out with water.
Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.
Notes to Physician: Chloroform sensitizes the heart to endogenous catelcholamines.

Section 5 - Fire Fighting Measures

General Information: Substance is noncombustible.
Extinguishing Media: Use water spray, dry chemical, carbon dioxide, or chemical foam.
Flash Point: Not available.
Autoignition Temperature: Not available.
Explosion Limits, Lower: Not available.
Upper: Not available.
NFPA Rating: (estimated) Health: 2; Flammability: 0; Instability: 0

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container.

Section 7 - Handling and Storage

Handling: Do not breathe dust, vapor, mist, or gas. Do not get in eyes, on skin, or on clothing. Do not ingest or inhale. Use only in a chemical fume hood.
Storage: Store in a cool, dry place. Do not store in direct sunlight. Store in a tightly closed container.

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.
Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Chloroform	10 ppm TWA	500 ppm IDLH	50 ppm Ceiling; 240 mg/m3 Ceiling

OSHA Vacated PELs: Chloroform: 2 ppm TWA; 9.78 mg/m3 TWA
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: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Clear liquid
Appearance: APHA: 10 max
Odor: sweetish odor
pH: Not available.
Vapor Pressure: 213mbar @20 deg C
Vapor Density: 4.12 (Air=1)
Evaporation Rate:11.6 (Butyl acetate=1)
Viscosity: 0.56 mPa s @20 deg C
Boiling Point: 61 deg C @760mmHg
Freezing/Melting Point:-63 deg C
Decomposition Temperature: Not available.
Solubility: 8 g/l (20°C)
Specific Gravity/Density:1.480
Molecular Formula:CHCl3
Molecular Weight:119.38

Section 10 - Stability and Reactivity

Chemical Stability: Stable at room temperature in closed containers under normal storage and handling conditions.
Conditions to Avoid: High temperatures, incompatible materials, light.
Incompatibilities with Other Materials: Strong oxidizing agents, bases, aluminum, fluorine, magnesium, sodium hydroxide, potassium, lithium, methyl alcohol, sodium, caustics (e.g. ammonia, ammonium hydroxide, calcium hydroxide, potassium hydroxide, sodium hydroxide), acetone, dinitrogen tetraoxide, triisopropyl phosphine, potassium hydroxide, perchloric acid, potassium tert-butoxide, phosphorus pentoxide, sodium potassium alloys, calcium hydroxide.
Hazardous Decomposition Products: Hydrogen chloride, carbon monoxide, carbon dioxide, chlorine, phosgene gas.
Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

RTECS#:
CAS# 67-66-3: FS9100000
LD50/LC50:
CAS# 67-66-3:
Draize test, rabbit, eye: 148 mg;
Draize test, rabbit, eye: 20 mg/24H Moderate;
Draize test, rabbit, skin: 500 mg/24H Mild;
Inhalation, mouse: LC50 = 17200 mg/m3/2H;
Inhalation, mouse: LC50 = 6000 mg/m3/6H;
Inhalation, rat: LC50 = 47702 mg/m3/4H;
Inhalation, rat: LC50 = 6000 mg/m3/6H;
Oral, mouse: LD50 = 36 mg/kg;
Oral, rat: LD50 = 695 mg/kg;

Oral, rat: LD50 = 1250 mg/kg;
Skin, rabbit: LD50 = >20 gm/kg;
.

Carcinogenicity:
CAS# 67-66-3:

- **ACGIH:** A3 - Confirmed animal carcinogen with unknown relevance to humans
- **California:** carcinogen, initial date 10/1/87
- **NTP:** Suspect carcinogen
- **IARC:** Group 2B carcinogen

Epidemiology: Please see IARC volume 20 for a detailed discussion.
Teratogenicity: Effects on newborn: Biochemical and Metabolic, Growth statistics (reduced weight gain), Oral-mouse, TDLo=2177 mg/kg (male 3W pre)Embryo or Fetus: Death, Ihl-rat, TCLo=20100 ug/m3/1H (female 7-14D post); Stunted fetus, Oral-rat, TDLo=1260 mg/kg (6-15D preg)Developmental abnormalities: Craniofacial, Ihl-mouse, TCLo=100 ppm/7H (female 6-15D post); Musculoskeletal, Oral-rat, TDLo=1260 mg/kg (6-15D preg).
Reproductive Effects: Fertility: Female index, Ihl-mouse, TCLo=100 ppm/7H (female 1-7D post).
Mutagenicity: DNA Damage: Mammal lymphocyte, 1 mmol/LSister Chromatid Exchange: Human lymphocyte, 10 mmol/L
Neurotoxicity: No information available.
Other Studies:

Section 12 - Ecological Information

Ecotoxicity: Fish: Rainbow trout: >1000 ppm; ; Bacteria: Pseudomonas putida: >1000 ppm; ; Rainbow trout, LC50=2030 ug/L Bluegill, LC50=100,000 ug/L/96H Largemouth bass, LC50=51 ppm/96H Fish: 10 mg/lFish-toxicity: LC50:162 mg/lPseudomonas putida: 125 mg/lScenedesmus quadricanda: 1100 mg/lMicrocystis aeruginosa: 185 mg/lEntosiphon sulcatum>6560 mg/l
Environmental: If released to land, most evaporates rapidly while some leaches to groundwater. If released to water, substance evaporates rapidly.
Physical: Substance photodegrades with T1/2 of 80 days.
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:
CAS# 67-66-3: waste number U044.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	CHLOROFORM	CHLOROFORM
Hazard Class:	6.1	6.1
UN Number:	UN1888	UN1888
Packing Group:	III	III

Section 15 - Regulatory Information

US FEDERAL

TSCA
CAS# 67-66-3 is listed on the TSCA inventory.
Health & Safety Reporting List
CAS# 67-66-3: Effective 6/1/87, Sunset 6/1/97
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
CAS# 67-66-3: 10 lb final RQ; 4.54 kg final RQ
SARA Section 302 Extremely Hazardous Substances
CAS# 67-66-3: 10000 lb TPQ
SARA Codes
CAS # 67-66-3: immediate, delayed.
Section 313
This material contains Chloroform (CAS# 67-66-3, >99%),which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.
Clean Air Act:
CAS# 67-66-3 is listed as a hazardous air pollutant (HAP).
This material does not contain any Class 1 Ozone depletors.

This material does not contain any Class 2 Ozone depletors.

Clean Water Act:

CAS# 67-66-3 is listed as a Hazardous Substance under the CWA. CAS# 67-66-3 is listed as a Priority Pollutant under the Clean Water Act. CAS# 67-66-3 is listed as a Toxic Pollutant under the Clean Water Act.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 67-66-3 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 Chloroform, a chemical known to the state of California to cause cancer.

California No Significant Risk Level: CAS# 67-66-3: 20 æg/day NSRL (oral); 40 æg/day NSRL (inhalation)

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

XN

Risk Phrases:

R 22 Harmful if swallowed.
R 38 Irritating to skin.
R 40 Limited evidence of a carcinogenic effect.
R 48/20/22 Harmful : danger of serious damage to health by prolonged exposure through inhalation and if swallowed.

Safety Phrases:

S 36/37 Wear suitable protective clothing and gloves.

WGK (Water Danger/Protection)

CAS# 67-66-3: 3

Canada - DSL/NDSL

CAS# 67-66-3 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of D2A, D2B, D1B.

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# 67-66-3 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 6/09/1999
Revision #5 Date: 2/10/2006