Material Safety Data Sheet
1,1,1-Trichloroethane, 90%

ACC# 05278

Section 1 - Chemical Product and Company Identification

MSDS Name: 1,1,1-Trichloroethane, 90%
Catalog Numbers: AC365240000, AC365242500
Synonyms: Methylchloroform
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
71-55-6	1,1,1-Trichloroethane	90%	200-756-3
75-65-0	tert-Butanol	ca. 5%	200-889-7

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: APHA: 10 max clear liquid.
Hygroscopic (absorbs moisture from the air).
Target Organs: Kidneys, central nervous system, liver, lungs, cardiovascular system, eyes, skin.

Potential Health Effects
Eye: Causes severe eye irritation. Contact with eyes may cause severe irritation, and possible eye burns. Vapors may cause eye irritation. Lachrymator (substance which increases the flow of tears). Causes redness and pain. Lachrymator (substance which increases the flow of tears).
Skin: Causes moderate skin irritation. Causes redness and pain.
Ingestion: May cause headache. May cause nausea and vomiting.
Inhalation: Harmful if inhaled. Inhalation of high concentrations may cause central nervous system effects characterized by nausea, headache, dizziness, unconsciousness and coma. High vapor concentrations may cause drowsiness. May cause dizziness, incoordination, and unconsciousness.
Chronic: Prolonged or repeated skin contact may cause defatting and dermatitis. May cause liver and kidney damage. Prolonged exposure may produce a narcotic effect. May cause lung damage.

Section 4 - First Aid Measures

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Immediately flush eyes with plen ty of water for at least 15 minutes, occasionally lifting the upper an d lower eyelids. Get medical aid.
Skin: Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
Ingestion: Never give anything by mouth to an unconscious person. Possible aspiration hazard. Get medical aid. Wash mouth out with water.
Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.
Notes to Physician: Because rapid absorption may occur through lungs if aspirated and caus e systemic effects,the decision of whether to induce vomiting or not s hould be made by a physician.If lavage is performed,suggest endotrache al and/or oesophageal control.Danger from lung aspiration must be weig hed against toxicity when considering emptying the stomach.Don´t give sympathomimetic drugs unless absolutely necessary.

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. Vapors may form an explosive mixture with air. Vapors can travel to a source of ignition and flash back. Wear appropriate protective clothing to prevent contact with skin and eyes. Wear a self-contained breathing apparatus (SCBA) to prevent contact with thermal decomposition products. Substance is noncombustible. Containers may explode in the heat of a fire.
Extinguishing Media: Use water spray to cool fire-exposed containers. 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: ; Flammability: ; Instability:

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. Provide ventilation.

Section 7 - Handling and Storage

Handling: Avoid breathing dust, vapor, mist, or gas. Avoid contact with skin and eyes.
Storage: Keep away from heat, sparks, and flame. Store in a cool, dry place. Store in a tightly closed container. Do not store in aluminum containers.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Use adequate ventilation to keep airborne concentrations low.
Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
1,1,1-Trichloroethane	350 ppm TWA; 450 ppm STEL	700 ppm IDLH	350 ppm TWA; 1900 mg/m3 TWA
tert-Butanol	100 ppm TWA	100 ppm TWA; 300 mg/m3 TWA 1600 ppm IDLH	100 ppm TWA; 300 mg/m3 TWA

OSHA Vacated PELs: 1,1,1-Trichloroethane: 350 ppm TWA; 1900 mg/m3 TWA tert-Butanol: 100 ppm TWA; 300 mg/m3 TWA
Personal Protective Equipment
Eyes: Not available.
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: Not available.
pH: Not available.
Vapor Pressure: Not available.
Vapor Density: Not available.
Evaporation Rate: Not available.
Viscosity: Not available.
Boiling Point: 74 - 76 deg C @760mmHg
Freezing/Melting Point:-33 deg C
Decomposition Temperature:> 177 deg C
Solubility: Not available.
Specific Gravity/Density:1.326
Molecular Formula:C2H3Cl3
Molecular Weight:133.4

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.
Conditions to Avoid: High temperatures, incompatible materials, exposure to moist air or water.
Incompatibilities with Other Materials: Strong oxidizing agents, strong bases, aluminum, magnesium, zinc, potassium, sodium, amides (e.g. butyramide, diethyltoluamide, dimethyl formamide), metals (alkali and alkaline, e.g. cesium, potassium, sodium), metals as powders (e.g. hafnium, raney nickel).
Hazardous Decomposition Products: Hydrogen chloride, chlorine, phosgene, carbon monoxide, carbon dioxide.
Hazardous Polymerization: Has not been reported

Section 11 - Toxicological Information

RTECS#:
CAS# 71-55-6: KJ2975000
CAS# 75-65-0: EO1925000
LD50/LC50:
CAS# 71-55-6:
Draize test, rabbit, eye: 100 mg Mild;
Draize test, rabbit, eye: 2 mg/24H Severe;
Draize test, rabbit, skin: 5 gm/12D (Intermittent) Mild;
Draize test, rabbit, skin: 20 mg/24H Moderate;
Inhalation, mouse: LC50 = 3911 ppm/2H;
Inhalation, mouse: LC50 = 29492 ppm/10M;
Inhalation, rat: LC50 = 17000 ppm/4H;
Inhalation, rat: LC50 = 14250 ppm/7H;
Inhalation, rat: LC50 = 20000 ppm/2H;

Oral, mouse: LD50 = 6 gm/kg;
Oral, rabbit: LD50 = 5660 mg/kg;
Oral, rat: LD50 = 9600
CAS# 75-65-0:
Dermal, guinea pig: LD50 = >10 mL/kg;
Draize test, rabbit, eye: 100 uL/24H Severe;
Draize test, rabbit, skin: 500 uL/24H Mild;
Inhalation, rat: LC50 = >10000 ppm/4H;
Oral, rabbit: LD50 = 3559 mg/kg;
Oral, rabbit: LD50 = 3600 mg/kg;
Oral, rat: LD50 = 2743 mg/kg;
Oral, rat: LD50 = 3500 mg/kg;
Skin, rabbit: LD50 = >2 gm/kg;
.

Carcinogenicity:
CAS# 71-55-6: Not listed by ACGIH, IARC, NTP, or CA Prop 65.
CAS# 75-65-0: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No data available.
Teratogenicity: No data available.
Reproductive Effects: No data available.
Mutagenicity: No data available.
Neurotoxicity: No data available.
Other Studies:

Section 12 - Ecological Information

Ecotoxicity: No data available. Fish toxicity:LC50 fathead minnow, sheepshead minnow, bluegill sunfish 53-72 mg/L/96H (Konemann, W.H. Quantitative structure-activity relationships for kinetics and toxicity of aquatic pollutants and their mixtures in fish 1979, Univ. Utrecht; Heitmuller, P.T. et al Bull. Environ. Contam. Toxicol. 1981, 27, 596-604; Buccafusco, R.J. et al Bull. Environ. Contam. Toxicol. 1981, 26, 446).Invertebrate toxicity:LC50 Daphnia magna >530 mg/L/48H (LeBlanc, G.A. Bull. Environ. Contam. Toxicol. 1980, 24, 684-691).
Environmental: Degradation studies:Biodegradation under aerobic conditions is below detectable limits. Biodegradation may occur under anaerobic conditions. Degradation is expected in the atmospheric environment within months to years.In soil collected from just above the groundwater table no aerobic degradation of 1 mg/L was measured (Wilson, J.T. et al Dev. Ind. Microbiol. 1983, 247, 125-233).
Physical: No information available.
Other: Hazard for drinking water supplies.

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# 71-55-6: waste number U226.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	1,1,1-TRICHLOROETHANE	1,1,1-TRICHLOROETHANE
Hazard Class:	6.1	6.1
UN Number:	UN2831	UN2831
Packing Group:	III	III

Section 15 - Regulatory Information

US FEDERAL

TSCA
CAS# 71-55-6 is listed on the TSCA inventory.
CAS# 75-65-0 is listed on the TSCA inventory.
Health & Safety Reporting List
CAS# 71-55-6: Effective 10/4/82, Sunset 10/4/92
Chemical Test Rules
CAS# 71-55-6: Test for Health Effects
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# 71-55-6: 1000 lb final RQ; 454 kg final RQ
SARA Section 302 Extremely Hazardous Substances
None of the chemicals in this product have a TPQ.
SARA Codes

CAS # 71-55-6: immediate.
CAS # 75-65-0: immediate, fire.

Section 313

This material contains 1,1,1-Trichloroethane (CAS# 71-55-6, 90%),which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR

tert-Butanol is not at a high enough concentration to be reportable under Section 313.

Clean Air Act:

CAS# 71-55-6 is listed as a hazardous air pollutant (HAP).
CAS# 71-55-6 is listed as a Class 1 ozone depletor with an 0.1 ODP; 110 GWP

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. CAS# 71-55-6 is listed as a Priority Pollutant under the Clean Water Act. CAS# 71-55-6 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# 71-55-6 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

CAS# 75-65-0 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

California Prop 65

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:

XN N

Risk Phrases:

R 20 Harmful by inhalation.
R 59 Dangerous for the ozone layer.

Safety Phrases:

S 24/25 Avoid contact with skin and eyes.
S 59 Refer to manufacturer/supplier for information on recovery/recy
cling.
S 61 Avoid release to the environment. Refer to special instructions
/safety data sheets.

WGK (Water Danger/Protection)

CAS# 71-55-6: 3
CAS# 75-65-0: No information available.

Canada - DSL/NDSL

CAS# 71-55-6 is listed on Canada's DSL List.
CAS# 75-65-0 is listed on Canada's DSL List.

Canada - WHMIS

not available.

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# 71-55-6 is listed on the Canadian Ingredient Disclosure List.
CAS# 75-65-0 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 8/04/2005
Revision #0 Date: Original.

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.