

Material Safety Data Sheet

Carbon Disulfide, 99.9%, Spectrophotometric Grade

ACC# 95965

Section 1 - Chemical Product and Company Identification

MSDS Name: Carbon Disulfide, 99.9%, Spectrophotometric Grade

Catalog Numbers: AC167710000, AC167715000

Synonyms: Carbon Bisulfide; Dithiocarbonic Anhydride; Sulphocarbonic Anhydride.

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
75-15-0	Carbon Disulfide	>99%	200-843-6

Hazard Symbols: T F

Risk Phrases: 11 36/38 48/23 62 63

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: clear, colorless liquid. Flash Point: -22 deg F. **Danger! Extremely flammable liquid.** May cause central nervous system effects. This substance has caused adverse reproductive and fetal effects in animals. Causes severe eye irritation. May cause skin irritation. May cause respiratory and digestive tract irritation. May cause liver and kidney damage. May cause cardiac disturbances. May cause skin sensitization by skin contact.

Target Organs: Kidneys, liver, cardiovascular system, nervous system.

Potential Health Effects

Eye: May cause severe eye irritation.

Skin: Causes skin irritation. May be absorbed through the skin in harmful amounts. Prolonged and/or repeated contact may cause defatting of the skin and dermatitis. Dermatitis and vesiculation may result from skin contact with the vapor or liquid. Chronic exposure may result in sensitization.

Ingestion: May cause digestive tract disturbances. May cause effects similar to those for inhalation exposure. Can cause nervous system damage. Ingestion may cause convulsions, seizures and possible coma.

Inhalation: May cause liver and kidney damage. Intoxication can involve all parts of the central and peripheral nervous systems including damage to the nerves with paresthesias, muscle weakness, unsteady gait, tremors, Exposure may accelerate the development or worsen, coronary heart disease.

Chronic: Chronic ingestion may cause liver damage. Prolonged or repeated exposure can cause psychic abnormalities such as anxiety, depression and excitability. May cause reproductive and fetal effects. Chronic exposure may cause visual disturbances. Repeated exposure may cause central and peripheral nervous system damage and digestive tract disturbances. Chronic exposure may cause coronary heart disease.

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 immediately. Do NOT allow victim to rub or keep eyes closed.

Skin: Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Destroy contaminated shoes.

Ingestion: Do NOT induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Get medical aid immediately.

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. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

Notes to Physician: Effects may be delayed. Observe patient.

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. Combustion generates toxic fumes. Extremely flammable. Material will readily ignite at room temperature. Use water spray to keep fire-exposed containers cool. Containers may explode in the heat of a fire. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas.

Extinguishing Media: For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam. For large fires, use water spray, fog, or alcohol-resistant foam. Use water spray to cool fire-exposed containers. Do NOT use straight streams of water. Cool containers with flooding quantities of water until well after fire is out.

Flash Point: -22e deg F (-30.00 deg C)

Autoignition Temperature: 257 deg F (125.00 deg C)

Explosion Limits, Lower:1.3

Upper: 50

NFPA Rating: (estimated) Health: 3; Flammability: 3; Instability: 0

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. Scoop up with a nonsparking tool, then place into a suitable container for disposal. Use water spray to disperse the gas/vapor. 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 saw dust. Provide ventilation. A vapor suppressing foam may be used to reduce vapors.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Use with adequate ventilation. Ground and bond containers when transferring material. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Avoid contact with heat, sparks and flame. Avoid ingestion and inhalation. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.

Storage: Keep away from heat, sparks, and flame. Keep away from sources of ignition. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Flammables-area.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Use explosion-proof ventilation equipment. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Carbon Disulfide	10 ppm TWA; skin - potential for cutaneous absorption	1 ppm TWA; 3 mg/m ³ TWA 500 ppm IDLH	20 ppm TWA; 30 ppm Ceiling

OSHA Vacated PELs: Carbon Disulfide: 4 ppm TWA; 12 mg/m³ TWA

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

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. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Appearance: clear, colorless

Odor: strong odor

pH: Not available.

Vapor Pressure: 300 mm Hg @ 20C

Vapor Density: 2.64 (Air=1)

Evaporation Rate:22.6 (Butyl acetate=1)

Viscosity: Not available.

Boiling Point: 46.5 deg C

Freezing/Melting Point:-111.6 deg C

Decomposition Temperature:Not available.

Solubility: Slightly soluble.

Specific Gravity/Density:1.3 (Water=1)

Molecular Formula:CS₂

Molecular Weight:76.12

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: Incompatible materials, ignition sources, oxidizers.

Incompatibilities with Other Materials: Alkali metals, aluminum, azides, cesium azide, chlorine and other halogens, chlorine monoxide, chromic anhydride, ethylene diamine, ethyleneimine, fluorine, lead azide, lead perchlorate, lithium azide, mercury fulminate, nitric oxide, nitrogen dioxide, nitrogen oxide, perchloric acid, permanganates + sulfuric acid, potassium, potassium azide, rubidium azide, sodium azide, zinc. Substance reacts exothermically with phenyl copper-triphenylphosphine complexes.

Hazardous Decomposition Products: Carbon monoxide, oxides of sulfur, carbon dioxide.

Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:**CAS#** 75-15-0: FF6650000**LD50/LC50:**

CAS# 75-15-0:

Inhalation, mouse: LC50 = 10000 mg/m³;Inhalation, mouse: LC50 = 10 gm/m³/2H;Inhalation, rat: LC50 = 25000 mg/m³;Inhalation, rat: LC50 = 1000 mg/m³;Inhalation, rat: LC50 = 25 gm/m³/2H;

Oral, mouse: LD50 = 2780 mg/kg;

Oral, rabbit: LD50 = 2550 mg/kg;

Oral, rat: LD50 = 1200 mg/kg;

Carcinogenicity:

CAS# 75-15-0: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

Epidemiology: No information available.**Teratogenicity:** Animal studies have indicated behavioral effects and reduced weight gain by rat inhalation. Premature fetal death and stunted fetus' were shown by rat inhalation and the oral route. Specific developmental abnormalities included craniofacial abnormalities including the nose and tongue by rat inhalation, effects on the eyes, ears and homeostasis by rat inhalation, and other unspecified abnormalities by the oral route in rabbits.**Reproductive Effects:** Hypospermia, abnormal sperm morphology, menstrual cycle irregularities and pain have been reported in humans. Effects on fertility and paternal effects have been reported in animal studies by the oral and inhalation routes of entry. These included effects on the prostate, seminal vesicle, Cowpers gland, urethra and spermatogenesis. Other studies have not found adverse effects. Conflicting studies regarding the ability of carbon**Neurotoxicity:** Neurotoxic effects have occurred in experimental animals. Neurotoxic effects have occurred in humans.**Mutagenicity:** Sister Chromatid Exchange: human lymphocyte 10200 ug/L.**Other Studies:** See actual entry in RTECS for complete information.

Section 12 - Ecological Information

Ecotoxicity: No data available. Mosquito fish (fresh water) TLm=35 ppm/48H Sunfish LC100=100 ug/L/H Trout LC100 500 ug/L/0.1H**Environmental:** When released to soil, substance volatilizes, leaches, and may biodegrade. In water, substance volatilizes. In air, substance degrades by reaction with atomic oxygen and hydroxyl radicals. Substance does not have high potential to bioconcentrate. Soil mobility is predicted to be high.**Physical:** Substance reacts with photochemically derived hydroxyl radicals and oxygen in the atmosphere.**Other:** None.

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: CAS# 75-15-0: waste number P022.**RCRA U-Series:** None listed.

Section 14 - Transport Information

	US DOT	IATA	RID/ADR	IMO	Canada TDG
Shipping Name:	CARBON DISULFIDE				No information available.
Hazard Class:	3				
UN Number:	UN1131				
Packing Group:	I				

Section 15 - Regulatory Information

US FEDERAL**TSCA**

CAS# 75-15-0 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.

SARA**CERCLA Hazardous Substances and corresponding RQs**

CAS# 75-15-0: 100 lb final RQ; 45.4 kg final RQ

SARA Section 302 Extremely Hazardous Substances

CAS# 75-15-0: 10,000 lb TPQ

SARA Codes

CAS # 75-15-0: acute, chronic, flammable.

Section 313

This material contains Carbon Disulfide (CAS# 75-15-0, 99%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

Clean Air Act:

CAS# 75-15-0 is listed as a hazardous air pollutant (HAP). This material does not contain any Class 1 Ozone depleters. This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

CAS# 75-15-0 is listed as a Hazardous Substance 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# 75-15-0 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

The following statement(s) is(are) made in order to comply with the California Safe Drinking Water Act: WARNING: This product contains Carbon Disulfide, a chemical known to the state of California to cause birth defects or other reproductive harm. 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 F

Risk Phrases:

R 11 Highly flammable.
R 36/38 Irritating to eyes and skin.
R 48/23 Toxic : danger of serious damage to health by prolonged exposure through inhalation.
R 62 Possible risk of impaired fertility.
R 63 Possible risk of harm to the unborn child.

Safety Phrases:

S 16 Keep away from sources of ignition - No smoking.
S 33 Take precautionary measures against static discharges.
S 36/37 Wear suitable protective clothing and gloves.
S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

WGK (Water Danger/Protection)

CAS# 75-15-0: 2

Canada - DSL/NDSL

CAS# 75-15-0 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of B2, D2A, D2B.

Canadian Ingredient Disclosure List

CAS# 75-15-0 is listed on the Canadian Ingredient Disclosure List.

Exposure Limits

CAS# 75-15-0: OEL-ARAB Republic of Egypt:TWA 10 ppm (30 mg/m³);Skin
OEL-AUSTRALIA:TWA 10 ppm (30 mg/m³);Skin OEL-BELGIUM:TWA 10 ppm (31
mg/m³);Skin OEL-CZECHOSLOVAKIA:TWA 10 mg/m³;STEL 20 mg/m³ OEL-DENMAR
K:TWA 5 ppm (15 mg/m³);Skin OEL-FINLAND:TWA 10 ppm (30 mg/m³);STEL 20
ppm (60 mg/m³);Skin OEL-FRANCE:TWA 10 ppm (30 mg/m³);STEL 25 ppm (75
mg/m³) OEL-GERMANY:TWA 10 ppm (30 mg/m³);Skin OEL-HUNGARY:TWA 5 mg/
m³;STEL 10 mg/m³;Skin OEL-INDIA:TWA 10 ppm (30 mg/m³);Skin OEL-JAPAN
:TWA 10 ppm (31 mg/m³);Skin OEL-THE NETHERLANDS:TWA 20 ppm (60 mg/m³)
;Skin OEL-THE PHILIPPINES:TWA 20 ppm (60 mg/m³);Skin OEL-POLAND:TWA
25 mg/m³ OEL-RUSSIA:TWA 10 ppm;STEL 1 mg/m³ OEL-SWEDEN:TWA 5 ppm (16
mg/m³);STEL 8 ppm (25 mg/m³);Skin OEL-SWITZERLAND:TWA 10 ppm (30 mg/
m³);STEL 20 ppm;Skin OEL-THAILAND:TWA 20 ppm (60 mg/m³);STEL 30 ppm (9
mg/m³) OEL-TURKEY:TWA 10 ppm (65 mg/m³);Skin OEL-UNITED KINGDOM:TW
A 10 ppm (30 mg/m³);Skin OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA che
ck ACGIH TLV OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI TLV

Section 16 - Additional Information

MSDS Creation Date: 4/28/1999

Revision #3 Date: 3/18/2003

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.