Material Safety Data Sheet
Cumene

ACC# 97098

Section 1 - Chemical Product and Company Identification

MSDS Name: Cumene
Catalog Numbers: AC110630000, AC110630010, AC110630025
Synonyms: Isopropylbenzene; Benzene, 1-methylethyl-; Cumol.
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
98-82-8	Cumene	ca. 100	202-704-5

Hazard Symbols: XN N
Risk Phrases: 10 37 51/53 65

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: clear, colorless liquid. Flash Point: 31 deg C. **Warning! Flammable liquid and vapor.** Causes eye and skin irritation. May cause lung damage. May cause central nervous system depression. Aspiration hazard if swallowed. Can enter lungs and cause damage. May be harmful if swallowed. May cause liver and spleen damage. May cause kidney damage. May form explosive peroxides. This material has been reported to be susceptible to autoxidation and therefore should be classified as peroxidizable. Causes respiratory tract irritation.
Target Organs: Kidneys, central nervous system, liver, spleen, lungs, eyes, skin.

Potential Health Effects
Eye: Causes eye irritation. May cause conjunctivitis.
Skin: Causes skin irritation. Exposure may cause irritation characterized by redness, dryness, and inflammation.
Ingestion: Aspiration hazard. Causes gastrointestinal irritation with nausea, vomiting and diarrhea. Aspiration of material into the lungs may cause chemical pneumonitis, which may be fatal. May be harmful if swallowed.
Inhalation: Inhalation of high concentrations may cause central nervous system effects characterized by nausea, headache, dizziness, unconsciousness and coma. May cause narcotic effects in high concentration. Vapors may cause dizziness or suffocation. Causes irritation of the mucous membrane and upper respiratory tract.
Chronic: Prolonged or repeated skin contact may cause dermatitis. Chronic inhalation may cause effects similar to those of acute inhalation. Repeated exposure may cause damage to the spleen. Prolonged exposure can injure liver, kidneys and lungs.

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.
Skin: Get medical aid. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.
Ingestion: Do NOT induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.
Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. 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: Persons with kidney disease, chronic respiratory disease, liver disease, or skin disease may be at increased risk from exposure to this substance. 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. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool. Water may be ineffective. Material is lighter than water and a fire may be spread by the use of water. Flammable liquid and vapor. Vapors are heavier than air and may travel to a source of ignition and flash back. Vapors can spread along the ground and collect in low or confined areas. May accumulate static electricity.
Extinguishing Media: For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam. Water may be ineffective. This material is lighter than water and insoluble in water. The fire could easily be spread by the use of water in an area where the water cannot be contained. For large fires, use water spray, fog or alcohol-resistant foam. Do NOT use straight streams of water.
Flash Point: 31 deg C (87.80 deg F)
Autoignition Temperature: 420 deg C (788.00 deg F)
Explosion Limits, Lower:0.9 vol %
Upper: 6.5 vol %

NFPA Rating: (estimated) Health: 2; Flammability: 3; Instability: 1

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. Clean up spills immediately, observing precautions in the Protective Equipment section. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation. A vapor suppressing foam may be used to reduce vapors.

Section 7 - Handling and Storage

Handling: Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. 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. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Use only with adequate ventilation. Avoid breathing vapor or mist.
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. Containers should be dated when opened and tested periodically for the presence of peroxides. Should crystals form in a peroxidizable liquid, peroxidation may have occurred and the product should be considered extremely dangerous. In this instance, the container should only be opened remotely by professionals. Isolate from oxidizing materials and acids. All peroxidizable substances should be stored away from heat and light and be protected from ignition sources.

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. Use adequate general or local explosion-proof ventilation to keep airborne levels to acceptable levels.
Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Cumene	50 ppm TWA	50 ppm TWA; 245 mg/m3 TWA 900 ppm IDLH	50 ppm TWA; 245 mg/m3 TWA

OSHA Vacated PELs: Cumene: 50 ppm TWA; 245 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: Use polyvinyl alcohol or fluorocarbon rubber (viton) gloves.
Clothing: Wear appropriate protective clothing to prevent skin exposure.
Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.

Section 9 - Physical and Chemical Properties

Physical State: Liquid
Appearance: clear, colorless
Odor: Sharp aromatic odor
pH: Not available.
Vapor Pressure: 10 mm Hg @ 38.3 deg C
Vapor Density: 4.1 (Air=1)
Evaporation Rate: Very low
Viscosity: 0.79 mPas 20 deg C
Boiling Point: 152 - 154 deg C @ 760mm Hg
Freezing/Melting Point:-96 deg C
Decomposition Temperature: Not available.
Solubility: Insoluble.
Specific Gravity/Density:.8600g/cm3
Molecular Formula:C9H12
Molecular Weight:120.19

Section 10 - Stability and Reactivity

Chemical Stability: Under normal storage conditions, peroxidizable compounds can form and accumulate peroxides which may explode when subjected to heat or shock. This material is most hazardous when peroxide levels are concentrated by distillation or evaporation.
Conditions to Avoid: Ignition sources, excess heat, prolonged exposure to air.
Incompatibilities with Other Materials: Oxidizing agents, nitric acid, nitrites, sulfuric acid, chlorosulfonic acid, oleum.
Hazardous Decomposition Products: Carbon monoxide, irritating and toxic fumes and gases, carbon dioxide.
Hazardous Polymerization: Has not been reported

Section 11 - Toxicological Information

RTECS#:
CAS# 98-82-8: GR8575000

LD50/LC50:
CAS# 98-82-8:
Draize test, rabbit, eye: 86 mg Mild;
Draize test, rabbit, eye: 500 mg/24H Mild;
Draize test, rabbit, skin: 100 mg/24H Moderate;
Inhalation, mouse: LC50 = 10 gm/m3/7H;
Oral, mouse: LD50 = 12750 mg/kg;
Oral, rat: LD50 = 1400 mg/kg;
Skin, rabbit: LD50 = 12300 uL/kg;

Carcinogenicity:
CAS# 98-82-8: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.
Epidemiology: No information available.
Teratogenicity: No information available.
Reproductive Effects: No information available.
Neurotoxicity: No information available.
Mutagenicity: No information available.
Other Studies: Open irritation test: Administration onto the skin (rabbit) 10 mg/24H (Mild). Standard Draize test: Administratio n into the eye (rabbit) = 100 mg/24H (Moderate).

Section 12 - Ecological Information

Ecotoxicity: Water flea Daphnia: EC50 =0.6 mg/L; 48Hr; Unspecified ria: Phytobacterium phosphoreum: EC50 = 1.48 mg/L; 5,15,30 min; Microtox test Fathead Minnow: LC50 = 6.32 mg/L; 96 Hr; Flow-through at 24.5 C (pH 7.58) When released to soil, cumene is expected to biodegrade and may volatilize from the soil surface. Cumene is expected to strongly adsorb to soils and is not expected to leach to groundwater. When released to water, cumene is expected to volatilize with an estimated half-life of 5-14 days and to biodegrade rapidly. Compared to these processes, aqueous photooxidation by hydroxyl radicals (estimated half-life 0.7 years) and peroxy radicals (estimated half-life 2.2 years) are expected to be relatively slow, and so are not expected to be significant fate processes.
Environmental: Bioconcentration is not expected to be significant. When released to the atmosphere, vapor phase cumene will react with photochemically generated hydroxyl radicals with an estimated half-life of 25 hours in polluted atmospheres and 49 hours in normal atmospheres. The reaction of vapor phase cumene with ozone has an estimated half-life of 3 years and the half-life of direct photolysis was estimated to be 1500 years.
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: CAS# 98-82-8: waste number U055 (Ignitable waste).

Section 14 - Transport Information

	US DOT	IATA	RID/ADR	IMO	Canada TDG
Shipping Name:	ISOPROPYLBENZENE				No information available.
Hazard Class:	3				
UN Number:	UN1918				
Packing Group:	III				

Section 15 - Regulatory Information

US FEDERAL

TSCA
CAS# 98-82-8 is listed on the TSCA inventory.
Health & Safety Reporting List
CAS# 98-82-8: Effective Date: 12/28/84; Sunset Date: 12/28/94
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# 98-82-8: 5000 lb final RQ; 2270 kg final RQ
SARA Section 302 Extremely Hazardous Substances
None of the chemicals in this product have a TPQ.
SARA Codes
CAS # 98-82-8: acute, flammable, reactive.
Section 313
This material contains Cumene (CAS# 98-82-8, 100%),which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

Clean Air Act:
CAS# 98-82-8 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:
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# 98-82-8 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.
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 10 Flammable.
R 37 Irritating to respiratory system.
R 51/53 Toxic to aquatic organisms; may cause long-term adverse effects in the aquatic environment.
R 65 Harmful: may cause lung damage if swallowed.

Safety Phrases:
S 24 Avoid contact with skin.
S 37 Wear suitable gloves.
S 61 Avoid release to the environment. Refer to special instructions/Safety data sheets.
S 62 If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

WGK (Water Danger/Protection)
CAS# 98-82-8: 1
Canada - DSL/NDSL
CAS# 98-82-8 is listed on Canada's DSL List.
Canada - WHMIS
This product has a WHMIS classification of B3, D2B.
Canadian Ingredient Disclosure List
CAS# 98-82-8 is listed on the Canadian Ingredient Disclosure List.
Exposure Limits
CAS# 98-82-8: OEL-AUSTRALIA:TWA 50 ppm (245 mg/m3);Skin OEL-AUSTRIA :TWA 50 ppm (245 mg/m3);Skin OEL-BELGIUM:TWA 50 ppm (246 mg/m3);Skin OEL-DENMARK:TWA 50 ppm (245 mg/m3);Skin OEL-FINLAND:TWA 50 ppm (245 mg/m3);STEL 75 ppm (370 mg/m3);Skin OEL-FRANCE:TWA 50 ppm (245 mg/m3) ;Skin OEL-GERMANY:TWA 50 ppm (245 mg/m3);Skin OEL-HUNGARY:TWA 80 mg/ m3;STEL 100 mg/m3 OEL-THE NETHERLANDS:TWA 50 ppm (245 mg/m3);Skin OE L-THE PHILIPPINES:TWA 50 ppm (245 mg/m3);Skin OEL-RUSSIA:STEL 50 mg/m 3 OEL-SWEDEN:TWA 25 ppm (120 mg/m3);STEL 35 ppm (17 mg/m3);Skin OEL-SWITZERLAND:TWA 50 ppm (245 mg/m3);Skin OEL-UNITED KINGDOM:TWA 50 ppm (245 mg/m3);STEL 75 ppm;Skin OEL IN BULGARIA, COLOMBIA, JORDAN, KORE A check ACGIH TLV OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI T LV

Section 16 - Additional Information

MSDS Creation Date: 5/21/1999
Revision #4 Date: 9/26/2001