

Material Safety Data Sheet

Furan, stabilized with 0.025 to 0.04% BHT, 98%

ACC# 96249

Section 1 - Chemical Product and Company Identification

MSDS Name: Furan, stabilized with 0.025 to 0.04% BHT, 98%

Catalog Numbers: AC119770000, AC119770010, AC119775000

Synonyms: Divinylene oxide; Oxacyclopentadiene; Furfuran; Tetrol; 1,4-Epoxy-1,3-butadiene; Oxole.

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
110-00-9	Furan	98	203-727-3
128-37-0	BHT	.03	204-881-4

Hazard Symbols: T F+

Risk Phrases: 12 19 20/22 38 45 48/22 52/53

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: clear, colorless liquid. Flash Point: -35 deg C. **Danger!** Uninhibited material, or material from which the inhibitor has been removed or reacted, may form explosive peroxides. Cancer suspect agent. May cause central nervous system depression. May cause liver damage. May cause eye and skin irritation. Extremely flammable liquid and vapor. Vapor may cause flash fire. May cause respiratory tract irritation. Harmful if inhaled or swallowed.

Target Organs: Central nervous system, liver, blood forming organs, adrenal medulla.

Potential Health Effects

Eye: May cause eye irritation. At high concentrations may cause lacrimation (tearing) and irritation.

Skin: May cause skin irritation. May be absorbed through the skin in harmful amounts. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material.

Ingestion: Harmful if swallowed. May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May cause liver damage. Possible aspiration hazard.

Inhalation: Harmful if inhaled. Irritation may lead to chemical pneumonitis and pulmonary edema. Vapors may cause dizziness or suffocation. May cause nausea, dizziness, and headache. Inhalation may cause respiratory tract irritation, oppression in the chest, dyspnea (labored breathing), central nervous system depression, and temporary visual disturbances. Exposure to high concentrations may produce narcosis, nausea and loss of consciousness. Dogs and rabbits collapsed and died after two inhalations from a saturated cotton wad.

Chronic: Chronic exposure may cause liver damage. Furan fed to mice and rats by gavage causes liver and bile duct cancer s.

Section 4 - First Aid Measures

Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid.

Skin: In case of contact, flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical aid if irritation develops and persists. Wash clothing before reuse.

Ingestion: If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical aid.

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. Use water spray to keep fire-exposed containers cool. Containers may explode in the heat of a fire. Will be easily ignited by heat, sparks or flame. Extremely flammable liquid and vapor. Vapor may cause flash fire. 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.

Extinguishing Media: Water may be ineffective. Use dry chemical or foam.

Flash Point: -35 deg C (-31.00 deg F)

Autoignition Temperature: 360 deg C (680.00 deg F)

Explosion Limits, Lower:2.3%

Upper: 14.3%

NFPA Rating: (estimated) Health: 1; Flammability: 4; 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. 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: Wash thoroughly after handling. 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. If peroxide formation is suspected, do not open or move container. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Do not distill since this removes peroxide-inhibitors. Use only with adequate ventilation.

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. Regularly check inhibitor levels to maintain peroxide levels below 1%. After opening, purge container with nitrogen before reclosing. Periodically test for peroxide formation on long-term storage. Addition of water or appropriate reducing materials will lessen peroxide formation.

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 ventilation to keep airborne concentrations low. Ventilation fans and other electrical service must be non-sparking and have an explosion-proof design. Use only under a chemical fume hood. Utilize a closed system process where feasible.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Furan	none listed	none listed	none listed
BHT	2 mg/m3 TWA (inhalable fraction, vapor and aerosol)	10 mg/m3 TWA	none listed

OSHA Vacated PELs: Furan: No OSHA Vacated PELs are listed for this chemical. BHT: 10 mg/m3 TWA

Personal Protective Equipment

Eyes: Wear chemical 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. 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: pleasant odor - ether-like

pH: Not available.

Vapor Pressure: 600 mm Hg @ 25 deg C

Vapor Density: 2.3

Evaporation Rate: Not available.

Viscosity: 0.38cP @ 20C

Boiling Point: 31.3 deg C

Freezing/Melting Point: -85.6 deg C

Decomposition Temperature: Not available.

Solubility: Insoluble.

Specific Gravity/Density: 0.93 g/cm3

Molecular Formula: C4H4O

Molecular Weight: 68.08

Section 10 - Stability and Reactivity

Chemical Stability: May form peroxides in the absence of inhibitors. May discolor on exposure to air. 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, evaporating to near dryness, prolonged exposure to air.

Incompatibilities with Other Materials: Strong oxidizing agents, strong acids, oxygen, peroxides.

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# 110-00-9: LT8524000

CAS# 128-37-0: GO7875000

LD50/LC50:

CAS# 110-00-9:

Inhalation, mouse: LC50 = 120 mg/m3/1H;

Inhalation, rat: LC50 = 3398 ppm/1H;

CAS# 128-37-0:

Draize test, rabbit, eye: 100 mg/24H Moderate;

Draize test, rabbit, skin: 500 mg/48H Moderate;

Oral, mouse: LD50 = 650 mg/kg;

Oral, rat: LD50 = 890 mg/kg;

Carcinogenicity:

CAS# 110-00-9:

California: carcinogen; initial date 10/1/93**NTP:** Suspect carcinogen**OSHA:** Possible Select carcinogen**IARC:** Group 2B carcinogen CAS# 128-37-0:**ACGIH:** A4 - Not Classifiable as a Human Carcinogen**IARC:** IARC Group 3 - not classifiable**Epidemiology:** No information available.**Teratogenicity:** No information available.**Reproductive Effects:** See actual entry in RTECS for complete information.**Neurotoxicity:** No information available.**Mutagenicity:** See actual entry in RTECS for complete information.**Other Studies:** No data available.**Section 12 - Ecological Information****Ecotoxicity:** No data available. No information available.**Environmental:** Rapidly volatilizes into atmosphere. Because of its volatility, there is a very low potential for bioconcentration or biodegradation.**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# 110-00-9: waste number U124 (Ignitable waste).**Section 14 - Transport Information**

	US DOT	IATA	RID/ADR	IMO	Canada TDG
Shipping Name:	FURAN				No information available.
Hazard Class:	3				
UN Number:	UN2389				
Packing Group:	I				

Section 15 - Regulatory Information**US FEDERAL****TSCA**

CAS# 110-00-9 is listed on the TSCA inventory.

CAS# 128-37-0 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# 110-00-9: 100 lb final RQ; 45.4 kg final RQ

SARA Section 302 Extremely Hazardous Substances

CAS# 110-00-9: 500 lb TPQ

SARA Codes

CAS # 110-00-9: acute, chronic, flammable. CAS # 128-37-0: acute.

Section 313

No chemicals are reportable under Section 313.

Clean Air Act:

This material does not contain any hazardous air pollutants. This material does not contain any Class 1 Ozone depleters. This material does not contain any Class 2 Ozone depleters.

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# 110-00-9 can be found on the following state right to know lists: New Jersey, Pennsylvania, Massachusetts.

CAS# 128-37-0 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 Furan, 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 F+

Risk Phrases:

R 12 Extremely flammable.

R 19 May form explosive peroxides.

R 20/22 Harmful by inhalation and if swallowed.

R 38 Irritating to skin.

R 45 May cause cancer.

R 48/22 Harmful : danger of serious damage to health by prolonged exposure if swallowed.

R 52/53 Harmful 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 61 Avoid release to the environment. Refer to special instructions/Safety data sheets.

WGK (Water Danger/Protection)

CAS# 110-00-9: No information available.

CAS# 128-37-0: 1

Canada - DSL/NDSL

CAS# 110-00-9 is listed on Canada's DSL List.

CAS# 128-37-0 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of B2, D2A.

Canadian Ingredient Disclosure List

CAS# 128-37-0 is listed on the Canadian Ingredient Disclosure List.

Exposure Limits

CAS# 110-00-9: OEL-RUSSIA:STEL 0.5 mg/m³;Skin

CAS# 128-37-0: OEL-AUSTRALIA:TWA 10 mg/m³ OEL-BELGIUM:TWA 10 mg/m³

OEL-FINLAND:TWA 10 mg/m³;STEL 20 mg/m³;Skin OEL-FRANCE:TWA 10 mg/m³

OEL-THE NETHERLANDS:TWA 10 mg/m³ OEL-SWITZERLAND:TWA 10 mg/m³ OEL-U

NITED KINGDOM:TWA 10 mg/m³ OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA c

heck ACGIH TLV OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI TLV

Section 16 - Additional Information

MSDS Creation Date: 6/03/1998

Revision #3 Date: 5/30/2002

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.