Material Safety Data Sheet

Citraconic anhydride

ACC# 29885

Section 1 - Chemical Product and Company Identification

MSDS Name: Citraconic anhydride
Catalog Numbers: AC154790000, AC154790250, AC154791000, AC154792500
Synonyms: 2-Methylmaleic anhydride; CTA.
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
616-02-4	Citraconic anhydride	98	210-459-0

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: clear colorless to light yellow liquid.
Danger! Toxic if absorbed through the skin. Causes burns by all exposure routes. May cause allergic respiratory and skin reaction.
Target Organs: Respiratory system, gastrointestinal system, eyes, skin.

Potential Health Effects

Eye: Causes eye burns. Citraconic anhydride tested full strength by drop application to rabbit eyes caused severe injury like that caused by acetic acid (HSDB).
Skin: Causes skin burns. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. Toxic in contact with skin. Citraconic anhydride sensitized 3 of 10 guinea pigs (HSDB).
Ingestion: Causes gastrointestinal tract burns. May be harmful if swallowed.
Inhalation: May cause allergic respiratory reaction. Causes chemical burns to the respiratory tract. May be harmful if inhaled. May cause burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting.
Chronic: May cause asthma.

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.
Skin: Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
Ingestion: Do not induce vomiting. Get medical aid immediately. Call a poison control center.
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 victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.
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. Vapors may form an explosive mixture with air. Will burn if involved in a fire.
Extinguishing Media: Use water spray to cool fire-exposed containers. Use foam, dry chemical, or carbon dioxide.
Flash Point: 101 deg C (213.80 deg F)
Autoignition Temperature: Not applicable.
Explosion Limits, Lower: Not available.
Upper: Not available.
NFPA Rating: (estimated) Health: 3; Flammability: 1; 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. Wear a self contained breathing apparatus and appropriate personal protection. (See Exposure Controls, Personal Protection section). Provide ventilation. Do not let this chemical enter the environment.

Section 7 - Handling and Storage

Handling: 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. Store in a tightly closed container. Corrosives area.

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 only under a chemical fume hood.
Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Citraconic anhydride	none listed	none listed	none listed

OSHA Vacated PELs: Citraconic anhydride: No OSHA Vacated PELs are listed for this chemical.
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: 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 respirator use.

Section 9 - Physical and Chemical Properties

Physical State: Liquid
Appearance: clear colorless to light yellow
Odor: None reported.
pH: Not available.
Vapor Pressure: 1 hPa @ 47 deg C
Vapor Density: 3.8 (air=1)
Evaporation Rate: Not available.
Viscosity: Not available.
Boiling Point: 213 deg C @ 760 mm Hg
Freezing/Melting Point:6 - 7 deg C
Decomposition Temperature: Not available.
Solubility: Decomposes.
Specific Gravity/Density:1.245
Molecular Formula:$C_5H_4O_3$
Molecular Weight:112.08

Section 10 - Stability and Reactivity

Chemical Stability: Moisture sensitive.
Conditions to Avoid: Incompatible materials, excess heat, exposure to moist air or water.
Incompatibilities with Other Materials: Strong oxidizing agents, reducing agents, bases.
Hazardous Decomposition Products: Carbon monoxide, carbon monoxide, carbon dioxide.
Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

RTECS#:
CAS# 616-02-4: GE6825000
LD50/LC50:
CAS# 616-02-4:
Dermal, guinea pig: LD50 = 1 mL/kg;
Oral, rat: LD50 = 2600 mg/kg;
Skin, rabbit: LD50 = 218 mg/kg;
.

Carcinogenicity:
CAS# 616-02-4: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information found
Teratogenicity: No information found
Reproductive Effects: No information found
Mutagenicity: No information found
Neurotoxicity: No information found
Other Studies:

Section 12 - Ecological Information

Ecotoxicity: No data available. No information available.
Environmental: No information available.
Physical: No information available.
Other: Do not empty into drains.

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: None listed.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	CORROSIVE LIQUIDS, TOXIC, N.O.S.	CORROSIVE LIQUIDS, TOXIC, N.O.S.
Hazard Class:	8	8
UN Number:	UN2922	UN2922
Packing Group:	III	III

Section 15 - Regulatory Information

US FEDERAL

TSCA
CAS# 616-02-4 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.
CERCLA Hazardous Substances and corresponding RQs
None of the chemicals in this material have an RQ.
SARA Section 302 Extremely Hazardous Substances
None of the chemicals in this product have a TPQ.
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 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# 616-02-4 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

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:

T

Risk Phrases:

R 24 Toxic in contact with skin.
R 34 Causes burns.
R 42/43 May cause sensitization by inhalation and skin contact.

Safety Phrases:

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S 28A After contact with skin, wash immediately with plenty of water.

WGK (Water Danger/Protection)

CAS# 616-02-4: No information available.

Canada - DSL/NDSL

CAS# 616-02-4 is listed on Canada's DSL List.

Canada - WHMIS

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

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

Section 16 - Additional Information

MSDS Creation Date: 9/02/1997
Revision #8 Date: 3/11/2008

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