
HAZARDS IDENTIFICATION

Emergency Overview

CAUTION!

White to tan powder with no discernible odor.
Harmful to aquatic organisms.
Resistant to biodegradation.
Avoid release to the environment.

Potential Health Effects

HAZARD DESCRIPTION

N Dangerous for the environment

INFORMATION PERTAINING TO PARTICULAR DANGERS FOR MAN AND ENVIRONMENT

R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

POTENTIAL HEALTH EFFECTS

INHALATION

No information available.

EYE CONTACT

May cause irritation.

SKIN CONTACT

No adverse effects have been noted.

INGESTION

No adverse effects have been noted.

CHRONIC EFFECTS

Prolonged or repeated exposure may cause digestive tract irritation and possibly liver and kidney effects based on animal studies.

TARGET ORGANS

None have been identified.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

None have been identified.

POTENTIAL ENVIRONMENTAL EFFECTS

Harmful to aquatic organisms.
The material inhibits algae growth.
Not readily biodegradable.
Stable in water and has moderate soil mobility.
May bioaccumulate in aquatic organisms.

(HAZARDS IDENTIFICATION - Continued)

Carcinogenicity Information

None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, OSHA or ACGIH as a carcinogen.

FIRST AID MEASURES

First Aid

INHALATION

None recommended.

EYE CONTACT

Flush eyes with water. If irritation develops, contact a physician.

SKIN CONTACT

Wash skin with soap and water. If irritation develops, contact a physician.

INGESTION

Contact a physician.

NOTE TO PHYSICIAN

Treat symptomatically as required by the condition of the patient.

FIRE FIGHTING MEASURES

Flammable Properties

Flash Point : Not Applicable
Flammable limits in Air, % by Volume
LEL : Not Applicable
UEL : Not Applicable
Autoignition : >882 F (>472 C) Limit of test apparatus

THPE does not explode under the effect of a flame based on test results. THPE is not sensitive to shock based on test results. THPE is not sensitive to friction based on test results. THPE has no explosive properties in the sense of the EC directive based on test results.

UNUSUAL FIRE AND EXPLOSION HAZARDS

Toxic vapors may be given off at high temperatures.

Extinguishing Media

Dry Chemical, Carbon Dioxide.

(FIRE FIGHTING MEASURES - Continued)

Large fires, use water spray or alcohol-type aqueous film-forming foam (AFFF).

Fire Fighting Instructions

Evacuate personnel to a safe area. Isolate area. Fight fire from maximum distance, use extreme caution as heat may decompose material and rupture containers. Keep personnel removed and upwind of fire. Shut off source of fuel, if possible and without risk. Cool tank/container with water spray.

FIRE FIGHTING EQUIPMENT

Wear standard fire-fighting bunker gear and complete personal protective equipment when exposed to products of combustion. If there is a potential for skin exposure to THPE see Exposure Controls/Personal Protection section of this MSDS.

HAZARDOUS COMBUSTION PRODUCTS

Carbon monoxide

ACCIDENTAL RELEASE MEASURES

Safeguards (Personnel)

NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

Avoid skin and eye contact. Contain spill to minimize contaminated area and facilities salvage or disposal.

This material is not considered a hazardous waste, when discarded under RCRA. However, this material must be disposed of properly under state regulations for industrial waste. It can also be incinerated.

Initial Containment

Prevent material from entering sewers, waterways, or low areas. Prevent groundwater contamination. Follow applicable Federal, State/Provincial and Local laws/ regulations.

Spill Clean Up

DUSTS/DRY POWDERS

Use wet cloth/mop to pick up and place in suitable container for disposal. Do not dry sweep as this causes dusting.

REPORTING

If required under Federal, State, and local regulations, any spill of this material may need to be reported. Comply with

(ACCIDENTAL RELEASE MEASURES - Continued)

Federal, State, and local regulations on reporting releases. Specific regulatory information will be detailed in the Regulatory Information section of this msds.

HANDLING AND STORAGE

Handling (Personnel)

Avoid breathing dust. Avoid contact with eyes, skin or clothing. Wash thoroughly after handling. Wash contaminated clothing prior to reuse.

Handling (Physical Aspects)

Keep container tightly closed.

Storage

Close container after each use.

EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls

Use sufficient ventilation to keep employee exposure below recommended limits.

Mechanical (General): Not recommended as the sole means of controlling employee exposure.

Personal Protective Equipment

RESPIRATORY PROTECTION

Use a NIOSH-approved cartridge respirator with particulate filter.

PROTECTIVE CLOTHING

Use chemical resistant gloves. Neoprene gloves. Check gloves for leaks before use.

EYE/FACE PROTECTION

Wear safety glasses with side shields or chemical safety goggles.

OTHER PROTECTIVE EQUIPMENT

A safety shower and an eye bath should be available.

Exposure Guidelines

Applicable Exposure Limits

Phenol, 4,4',4"-ethylidynetris-
AEL * (DuPont) : 1 mg/m³, 8 & 12 Hr. TWA

* AEL is DuPont's Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits which are lower than the AEL are in effect, such limits shall take precedence.

PHYSICAL AND CHEMICAL PROPERTIES

Physical Data

Vapor Density : Undetermined
Melting Point : 473-478 F (245-248 C)
Boiling Point : Not Applicable
Specific Gravity : Not Applicable
Evaporation Rate : Not Applicable
Solubility in Water : 25.1 mg/L @ 20 C (68 F)
pH : Not Applicable
Color : White to Tan.
Odor : Odorless.
Form : Solid.

Vapor Pressure, : 4.99 x 10⁽⁻⁷⁾ Pa at 25 C
Bulk Relative Density : 1.2260 at 20 C to H₂O
at 4 C

STABILITY AND REACTIVITY

Chemical Stability

Stable.

Incompatibility with Other Materials

Incompatible with Strong Oxidizers

Decomposition

Hazardous gases or vapors can be released, including carbon monoxide.

Polymerization

Polymerization will not occur.

TOXICOLOGICAL INFORMATION

Animal Data

INHALATION

No information is available.

EYE CONTACT

24-hour Draize score: 0.33/110, practically nonirritating.

SKIN CONTACT

LD50 rabbit: > 2000 mg/kg, not harmful.

Primary Irritation Index: 0.0/8.0, practically nonirritating.

The material is not a sensitizer in guinea pigs using the maximization procedure.

INGESTION

LD50, rat: > 5000 mg/kg, not harmful.

GENOTOXICITY

Not mutagenic in bacterial cells in culture. Did not damage chromosomes in mammalian cells or in whole animals, or cause unscheduled DNA synthesis in mammalian cells.

TARGET ORGANS

None have been identified.

SUBCHRONIC TOXICITY

Gavage study, rat (28-days):

NOAEL = 100 mg/kg

LOAEL = 1000 mg/kg

Decreased weight gain in males, urinary protein excretion, increased liver weights, and increased cell growth in the intestines noted.

ECOLOGICAL INFORMATION

Ecotoxicological Information

ECOTOXICOLOGICAL (Classified by EU criteria)

96 hr static LC50 Rainbow trout (saturated conditions): > 19 mg/L, not harmful. NOEC = 19 mg/L.

96 hr static LC50 Fathead minnow (saturated conditions): > 19 mg/L, not harmful. NOEC = 19 mg/L.

48 hr static EC50 Daphnia magna: 13 mg/L; harmful. NOEC = 0.72 mg/L.

72 hr IC50 growth inhibition of freshwater algae: 3.6 mg/L, toxic. NOEC = 0.23 mg/L.

(ECOLOGICAL INFORMATION - Continued)

FATE

Not readily biodegradable. In a closed bottle test an oxygen uptake corresponding to 8% degradation was achieved after 28 days incubation.

Not inherently biodegradable. Produced zero percent of the TCO₂ within 28 days of incubation using preadapted inoculum and measuring carbon dioxide evolution.

Environmental half-life estimated to be greater than one year. Stable in water from pH 4 to 9. No significant loss after 5 days incubation at 50 °C.

Water solubility 25.1 mg/L at 20 °C.

Considered to have medium mobility in soils. Soil Adsorption Coefficient K_{oc} = 174 at 20 °C. EC₅₀: > 11 mg/L for inhibition of activated sludge respiration.

Moderate bioconcentration potential based on Log P_{o/w} = 3.88

DISPOSAL CONSIDERATIONS

Waste Disposal

DISPOSAL METHODS

Consult 40 CFR, Parts 261 and 268, State and local regulations for guidance on disposal of this product. Incineration at a facility with proper Federal and State issued permits is the recommended method for disposal. DO NOT RELEASE INTO GROUND WATER. DO NOT RELEASE INTO RIVERS, LAKES OR STREAMS.

Container Disposal

Empty containers retain product residue. Observe all hazard precautions. Keep away from heat, sparks, and flames. Do not distribute, make available, or reuse empty containers except for storage and shipment of original product. Remove all hazardous product residue, and puncture or otherwise destroy empty containers before disposal. Consult 40 CFR, Parts 261 and 268 for guidance on disposal.

TRANSPORTATION INFORMATION

Shipping Information

DOT/IMO/IATA

Proper Shipping Name : Environmentally hazardous substance,
solid, n.o.s.(phenol,
4,4',4"-ethylidynetris)
Hazard Class : 9
UN No. : 3077
Packing Group : III

ICAO

Proper Shipping Name : Environmentally hazardous substance,
solid, n.o.s.(phenol,
4,4',4"-ethylidynetris)
Hazard Class : 9
UN No. : 3077
Packing Group : III

Land Transport ADR/RID (cross-border)

ADR/RID Class : 9 Miscellaneous dangerous
substances and articles
Item : 12c
Danger Code (Kemler) : 90
UN-Number : 3077
Description of Goods : 3077 Environmentally hazardous
substance, solid, n.o.s., phenol,
4,4',4"-ethylidynetris

REGULATORY INFORMATION

U.S. Federal Regulations

This product complies with TSCA inventory reporting requirements.

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION
ACT)

311/312 Hazard Categories Acute

313

This product is not subject to the reporting requirements of
Section 313 of the Emergency Planning and Community Right-
To-Know Act of 1986 and of 40 CFR 372.

CERCLA (COMPREHENSIVE RESPONSE COMPENSATION AND LIABILITY
ACT)

Reportable Quantity (RQ): None

We recommend you contact local authorities to determine if
there may be other local reporting requirements.

INTERNATIONAL REGULATORY INFORMATION

(REGULATORY INFORMATION - Continued)

EINECS (EUROPEAN INVENTORY OF EXISTING COMMERCIAL CHEMICAL
SUBSTANCES)

Components of this product are not listed on the EINECS
Inventory. The product is listed on the ELINCS inventory and
has been notified under the Seventh Amendment in the U.K.
ELINCS Number: 405-800-7
EU Number: 604-048-00-9

LABELING ACCORDING TO EC DIRECTIVES

Symbol:
N Dangerous for the Environment

R-phrases:

51/53 Toxic to aquatic organisms, may cause long-term
adverse effects in the aquatic environment.

S-phrases:

29/56 Do not empty into drains, dispose of this material and
its container at hazardous or special waste collection
point.

57 Use appropriate container to avoid environmental
contamination.

60 This material and its container must be disposed of as
hazardous waste.

GERMAN REGULATIONS

Water Hazard Class WGK: 2 (Self-assessment) : hazardous for
water.

OTHER INTERNATIONAL LISTINGS

Korea - Listed

Japan - Listed as "Designated Chemical Substance" (effective
15 May 1991)

OTHER INFORMATION

NFPA, NPCA-HMIS

NFPA Rating	
Health	: 0
Flammability	: 0
Reactivity	: 0

NPCA-HMIS Rating	
Health	: 0
Flammability	: 0
Reactivity	: 0

(Continued)

Additional Information

Because the long-term human health effects from exposure to THPE have not been fully evaluated, exposure should be kept to the lowest level possible.

This material is for industrial use. Use only under the supervision of a technically qualified individual.

LABEL TEXT

EC Label Text

1,1,1-Tris(p-hydroxyphenyl)ethane

THPE

ELINCS Number: 405-800-7

EU Number: 604-048-00-9

UN 3077

COMPONENT(S)	CAS NUMBER(S)	PERCENT
1,1,1,-TRIS(P-HYDROXYPHENYL)ETHANE	27955-94-8	>99.5%

R: 51/53 S: 29/56, 57, 60

Toxic to aquatic organisms, may cause long term adverse effects in the aquatic environment.

Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point. Use appropriate container to avoid environmental contamination.

This material and its container must be disposed of as hazardous waste.

EEC Danger Symbol: N Dangerous for the Environment

Domestic U.S. Label Text

1,1,1-Tris(p-hydroxyphenyl)ethane

THPE

COMPONENT(S)	CAS NUMBER(S)	PERCENT
Phenol, 4,4',4"-ethylidynetris-	27955-94-8	>99.5%

CAUTION!

Harmful to aquatic organisms.

Resistant to biodegradation.

Avoid release to the environment.

FIRST AID MEASURES

INHALATION: None recommended.

EYE CONTACT: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

SKIN CONTACT: In case of contact, immediately flush skin with plenty of water for at least 15 minutes, while removing

(Continued)

contaminated clothing and shoes. Call a physician. Wash contaminated clothing before reuse.

INGESTION: Contact a physician.

FIRE: In case of fire, use water, foam, dry chemical, alcohol-type aqueous film-forming foam or carbon dioxide. Cool containers with water spray.

SPILL OR LEAK: Contain spill to minimize contaminated area then place in a suitable container for disposal. Use appropriate Personal Protective Equipment (PPE). If material becomes dry, wet or dampen before removal Do not sweep.

STORAGE: Keep in original tightly closed containers when not in use. Use with adequate ventilation. Do not enter storage area that is not adequately ventilated.

SEE MATERIAL SAFETY DATA SHEET FOR MORE INFORMATION.

The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

Responsibility for MSDS : DuPont Electronic Polymers L.P.
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Gregory, Texas 78359
Telephone : 757-686-8663 OR 919-248-5027

Indicates updated section.

This information is based upon technical information believed to be reliable. It is subject to revision as additional knowledge and experience is gained.

End of MSDS