

SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking

Product identifier**Product name:** Benzoflex(TM) 354 Plasticizer**Product No.:** EAN 985112. E3261201**Relevant identified uses of the substance or mixture and uses advised against****Identified uses:** Plasticizer**Uses advised against:** None known.**Details of the supplier of the safety data sheet****Manufacturer / Supplier**Eastman Chemical Company
200 South Wilcox Drive
Kingsport, TN 37660-5280 US
+14232292000Visit our website at www.EASTMAN.com or email emnmsds@eastman.com**Emergency telephone number:**

For emergency health, safety, and environmental information, call 1-423-229-4511 or 1-423-229-2000.

For emergency transportation information, in the United States: call CHEMTREC at 800-424-9300 or call 423-229-2000.

SECTION 2: Hazards identification

Hazard classification: The product has not been classified as hazardous according to the legislation in force.**OSHA Specified Hazards:** not applicable**Hazard(s) not otherwise classified (HNOC):** None known.

SECTION 3: Composition/information on ingredients

Substances / Mixtures**General information:**

Chemical name	Concentration	Additional identification	Notes
2,2,4-trimethyl-1,3-pentanediol, dibenzoate	100%	CAS-No.: 68052-23-3	

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.
This substance has workplace exposure limit(s).

SECTION 4: First aid measures

Description of first aid measures

Inhalation:	Move to fresh air. Treat symptomatically. Get medical attention if symptoms persist.
Eye contact:	Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses. Get medical attention if symptoms persist.
Skin contact:	Wash with soap and water. Get medical attention if symptoms occur.
Ingestion:	Seek medical advice.
Most important symptoms and effects, both acute and delayed:	No known chronic or acute health risks.
Indication of any immediate medical attention and special treatment needed	
Hazards:	None known.
Treatment:	Treat symptomatically.

SECTION 5: Firefighting measures

General fire hazards:	None known.
Extinguishing media	
Suitable extinguishing media:	Water spray. Dry chemical. Carbon Dioxide. Foam.
Unsuitable extinguishing media:	None known.
Special hazards arising from the substance or mixture:	None known.
Advice for firefighters	
Special fire fighting procedures:	None known.
Special protective equipment for fire-fighters:	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures:	Wear appropriate personal protective equipment.
Environmental precautions:	Not regarded as dangerous for the environment.
Methods and material for containment and cleaning up:	Absorb spill with vermiculite or other inert material, then place in a container for chemical waste.
Notification Procedures:	In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

SECTION 7: Handling and storage:

Precautions for safe handling: No special precautions are necessary beyond normal good hygiene practices. See Section 8 of the MSDS for additional personal protection advice when handling this product.

Conditions for safe storage, including any incompatibilities: Keep container closed.

Specific end use(s): Plasticizer

SECTION 8: Exposure controls/personal protection**Control parameters****Occupational exposure limits**

Country specific exposure limits have not been established or are not applicable unless listed below.

Exposure controls

Appropriate engineering controls: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

General information: Eye bath. Washing facilities.

Eye/face protection: It is a good industrial hygiene practice to minimize eye contact.

Skin protection

Hand protection: It is a good industrial hygiene practice to minimize skin contact.

Other: No data available.

Respiratory Protection: If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA Standard 63 FR 1152, January 8, 1998. Respirator type: Air-purifying respirator with an appropriate, government approved (where applicable), air-purifying filter, cartridge or canister. Contact health and safety professional or manufacturer for specific information.

Hygiene measures: Observe good industrial hygiene practices.

Environmental Controls: No data available.

SECTION 9: Physical and chemical properties**Information on basic physical and chemical properties****Appearance**

Physical State:	Liquid
Form:	Liquid
Color:	colorless, light yellow
Odor:	Mild
Odor Threshold:	Not determined.
pH:	No data available.
Freezing Point:	-12 °C
Boiling Point:	> 300 °C
Flash Point:	197 °C (Setaflash Closed Cup)
Evaporation Rate:	No data available.
Flammability (solid, gas):	No data available.
Flammability Limit - Upper (%)—:	No data available.
Flammability Limit - Lower (%)—:	No data available.
Vapor pressure:	< 0.00001 hPa (20 °C)
Vapor density (air=1):	No data available.
Specific Gravity:	1.08
Solubility(ies)	
Solubility in Water:	Negligible
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Autoignition Temperature:	No data available.
Decomposition Temperature:	Thermal stability not tested. Low stability hazard expected at normal operating temperatures.
Dynamic Viscosity:	406 mPa.s
Kinematic viscosity:	634 mm ² /s (25 °C)
Explosive properties:	No data available.
Oxidizing properties:	No data available.

SECTION 10: Stability and reactivity

Reactivity:	None known. Materials containing similar structural groups are normally stable.
Chemical stability:	Not fully evaluated.
Possibility of hazardous reactions:	None known.
Conditions to avoid:	None at ambient temperatures.
Incompatible materials:	Strong oxidizing agents.
Hazardous decomposition products:	Carbon Dioxide. Carbon Monoxide.

SECTION 11: Toxicological information**Information on likely routes of exposure****Inhalation:** None known.**Ingestion:** None known.**Skin contact:** None known.**Eye contact:** None known.**Information on toxicological effects****Acute Toxicity****Oral****Product:** No data available.**Specified substance(s)**1,3-Pentanediol, 2,2,4-trimethyl-, 1,3-dibenzoate
Oral LD-50: (Rat): > 3,200 mg/kg**Dermal****Product:** No data available.**Specified substance(s)**1,3-Pentanediol, 2,2,4-trimethyl-, 1,3-dibenzoate
Dermal LD-50: (Rabbit): > 2,000 mg/kg**Inhalation****Product:** No data available.**Specified substance(s)**1,3-Pentanediol, 2,2,4-trimethyl-, 1,3-dibenzoate
No data available.**Repeated dose toxicity****Product:** No data available.**Specified substance(s)**1,3-Pentanediol, 2,2,4-trimethyl-, 1,3-dibenzoate
No data available.**Skin corrosion/irritation:****Product:** No data available.**Specified substance(s)**1,3-Pentanediol, 2,2,4-trimethyl-, 1,3-dibenzoate
(Rabbit, 24 h): Slight**Serious eye damage/eye irritation:****Product:** No data available.**Specified substance(s)**1,3-Pentanediol, 2,2,4-trimethyl-, 1,3-dibenzoate
(Rabbit, 24 h): slight**Respiratory or skin sensitization:**

Product: No data available.

Specified substance(s)

1,3-Pentenediol, 2,2,4-trimethyl-, 1,3-dibenzoate

Skin Sensitization:, (Guinea Pig) - non-sensitizing

Mutagenicity

In vitro

Product: No data available.

Specified substance(s)

1,3-Pentenediol, 2,2,4-trimethyl-, 1,3-dibenzoate

No data available.

In vivo

Product: No data available.

Specified substance(s)

1,3-Pentenediol, 2,2,4-trimethyl-, 1,3-dibenzoate

No data available.

Carcinogenicity

Product: No data available.

Specified substance(s)

1,3-Pentenediol, 2,2,4-trimethyl-, 1,3-dibenzoate

No data available.

Reproductive toxicity

Product: No data available.

Specified substance(s)

1,3-Pentenediol, 2,2,4-trimethyl-, 1,3-dibenzoate

No data available.

Specific target organ toxicity - single exposure

Product: No data available.

Specified substance(s)

1,3-Pentenediol, 2,2,4-trimethyl-, 1,3-dibenzoate

No data available.

Specific target organ toxicity - repeated exposure

Product: No data available.

Specified substance(s)

1,3-Pentenediol, 2,2,4-trimethyl-, 1,3-dibenzoate

No data available.

Aspiration hazard

Product: No data available.

Specified substance(s)

1,3-Pentenediol, 2,2,4-trimethyl-, 1,3-dibenzoate

No data available.

Other adverse effects: No data available.

SECTION 12: Ecological information**Toxicity****Acute toxicity****Fish****Product:** No data available.**Specified substance(s)**

1,3-Pentenediol, 2,2,4-trimethyl-, 1,3-dibenzoate No data available.

Aquatic invertebrates**Product:** No data available.**Specified substance(s)**

1,3-Pentenediol, 2,2,4-trimethyl-, 1,3-dibenzoate No data available.

Chronic Toxicity**Fish****Product:** No data available.**Specified substance(s)**

1,3-Pentenediol, 2,2,4-trimethyl-, 1,3-dibenzoate No data available.

Aquatic invertebrates**Product:** No data available.**Specified substance(s)**

1,3-Pentenediol, 2,2,4-trimethyl-, 1,3-dibenzoate No data available.

Toxicity to Aquatic Plants**Product:** No data available.**Specified substance(s)**

1,3-Pentenediol, 2,2,4-trimethyl-, 1,3-dibenzoate No data available.

Persistence and degradability**Biodegradation****Product:** No data available.**Specified substance(s)**

1,3-Pentenediol, 2,2,4-trimethyl-, 1,3-dibenzoate No data available.

Biological Oxygen Demand:**Product** No data available.**Specified substance(s)**

1,3-Pentenediol, 2,2,4-trimethyl-, 1,3-dibenzoate No data available.

Chemical Oxygen Demand:**Product** No data available.

Specified substance(s)

1,3-Pentanediol, 2,2,4-trimethyl-, 1,3-dibenzoate

No data available.

BOD/COD ratio**Product**

No data available.

Specified substance(s)

1,3-Pentanediol, 2,2,4-trimethyl-, 1,3-dibenzoate

No data available.

Bioaccumulative potential**Product:**

No data available.

Specified substance(s)

1,3-Pentanediol, 2,2,4-trimethyl-, 1,3-dibenzoate

No data available.

Mobility in soil:

No data available.

Known or predicted distribution to environmental compartments

1,3-Pentanediol, 2,2,4-trimethyl-, 1,3-dibenzoate

No data available.

Results of PBT and vPvB assessment:

No data available.

1,3-Pentanediol, 2,2,4-trimethyl-, 1,3-dibenzoate

No data available.

Other adverse effects:

No data available.

SECTION 13: Disposal considerations**Waste treatment methods****General information:**

No data available.

Disposal methods:

Dispose of waste and residues in accordance with local authority requirements. Incinerate.

SECTION 14: Transport information

Important Note: Shipping descriptions may vary based on mode of transport, quantities, package size, and/or origin and destination. Consult your company's Hazardous Materials/Dangerous Goods expert for information specific to your situation.

DOT

Class not regulated

IMDG - International Maritime Dangerous Goods Code

Class not regulated

IATA

Class not regulated

SECTION 15: Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture:

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

WHMIS (Canada) Status: noncontrolled

US EPCRA (SARA Title III) Section 313 - Toxic Chemical List

NONE

OSHA: nonhazardous

TSCA (US Toxic Substances Control Act): All components of this product are listed on the TSCA inventory. Any impurities present in this product are exempt from listing.

DSL (Canadian Domestic Substances List) and CEPA (Canadian Environmental Protection Act): All components of this product are listed on the DSL. Any impurities present in this product are exempt from listing.

ECL (Korean Toxic Substances Control Act): All components of this product are listed on the Korean inventory or otherwise comply with the Korean Toxic Substances Control Act.

Inventory of Existing Chemical Substances in China: All components of this product are listed on the Inventory of Existing Chemical Substances in China (IECSC).

SECTION 16: Other information

HMIS® Hazard Ratings: Health - 1, Flammability - 1, Chemical Reactivity - 0

HMIS® rating involves data interpretations that may vary from company to company. They are intended only for rapid, general identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this material, all the information contained in this MSDS must be considered.

Revision Information: Not relevant.

Key literature references and sources for data: No data available.

Training information: No data available.

Regulation (EC) No. 1272/2008

Issue date: 10/22/2014

SDS No.:

Disclaimer:

This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.