SAFETY DATA SHEET

1. Identification

Product identifier	**Plastic Additive 14**
Other means of identification	
Catalog number	1545056
CAS number	117-81-7
Synonyms	Bis(2-ethylhexyl) phthalate
Chemical name	Di(2-ethylhexyl) phthalate
Recommended use	For analytical laboratory use only.
Recommended restrictions	Not for use as a drug. Not for administration to humans or animals.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name	U. S. Pharmacopeia	
Address	12601 Twinbrook Parkway Rockville MD 20852-1790 United States	
Telephone	Customer Service	301-881-0666
Website	www.usp.org	
E-mail	RSTECH@usp.org	
Emergency phone number	CHEMTREC within US & Canada	1-800-424-9300
	CHEMTREC outside US & Canada	+1 703-527-3887

2. Hazard(s) identification

Physical hazards	Not classified.	
Health hazards	Serious eye damage/eye irritation	Category 2B
	Germ cell mutagenicity	Category 2
	Carcinogenicity	Category 2
	Reproductive toxicity	Category 1B
Environmental hazards	Not classified.	
OSHA defined hazards	Not classified.	

Label elements



Signal word	Danger
Hazard statement	Causes eye irritation. Suspected of causing genetic defects. Suspected of causing cancer. May damage fertility or the unborn child.

Precautionary statement

Prevention	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection.
Response	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. If exposed or concerned: Get medical advice/attention.
Storage	Store locked up.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Substance

Chemical name	Common name and synonyms	CAS number	%
Plastic Additive 14	Bis(2-ethylhexyl) phthalate	117-81-7	100

Information provided in the SDS is not specific to the lot provided. Refer to the label and USP Certificate/Product Information Sheet for the assigned value of a particular lot.

4. First-aid measures

Inhalation	If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist.
Skin contact	Wash off with soap and water. Get medical attention if irritation develops and persists.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. If ingestion of a large amount does occur, call a poison control center immediately.
Most important symptoms/effects, acute and delayed	Irritation of eyes.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically.
General information	Remove from exposure. Remove contaminated clothing. For treatment advice, seek guidance from an occupational health physician or other licensed health-care provider familiar with workplace chemical exposures. In the United States, the national poison control center phone number is 1-800-222-1222. If person is not breathing, give artificial respiration. If breathing is difficult, give oxygen if available. Persons developing serious hypersensitivity (anaphylactic) reactions must receive immediate medical attention.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Wear appropriate personal protective equipment. Avoid inhalation of vapors. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Absorb spillage with suitable absorbent material. Clean surface thoroughly to remove residual contamination. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	As a general rule, when handling USP materials, avoid all contact and inhalation of dust, mists, and/or vapors associated with the material. Clean equipment and work surfaces with suitable detergent or solvent after use. After removing gloves, wash hands and other exposed skin thoroughly. Select and use containment devices and personal protective equipment based on a risk assessment of material potency and exposure potential.

Conditions for safe storage, including any incompatibilities Store in tight container. This material should be handled and stored per label instructions to ensure product integrity.

8. Exposure controls/personal protection

Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

US. OSHA Table Z-1 Permissible Exposure Limits (PEL) for Air Contaminants (29 CFR 1910.1000)

Material	Type	Value
Plastic Additive 14 (CAS 117-81-7)	PEL	5 mg/m3

US. ACGIH Threshold Limit Values (TLV)

Material	Type	Value
Plastic Additive 14 (CAS 117-81-7)	TWA	5 mg/m3

US. NIOSH: Pocket Guide to Chemical Hazards Recommended Exposure Limits (REL)

Material	Type	Value
Plastic Additive 14 (CAS 117-81-7)	STEL	10 mg/m3
	TWA	5 mg/m3

Biological limit values No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls For laboratory operations, use good technique and limit open handling. Control exposures to below the occupational exposure level (if available). Select and use containment devices and personal protective equipment based on a risk assessment of exposure potential. Cover all containers for solutions and slurries while being transferred.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields, chemical splash goggles, or full face shield, if necessary. Base the choice of protection on the job activity and potential for contact with eyes or face. An emergency eye wash station should be available.

Skin protection

Hand protection Wear nitrile or other impervious gloves if skin contact is possible. When the material is dissolved or suspended in an organic solvent, wear gloves that provide protection against the solvent.

Other Wear lab coat. Base the choice of skin protection on the job activity, potential for skin contact and solvents and reagents in use. Do not wear protective garments in common areas (e.g., cafeterias) or out-of-doors.

Respiratory protection Respirators are generally not required for laboratory operations. Choose respiratory protection appropriate to the task and the level of existing engineering controls.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations Handling practices in this SDS are recommendations for laboratory use of USP materials.

9. Physical and chemical properties

Appearance Appearance descriptions are general information and not specific to any USP lot.

Physical state Liquid.

Form Liquid. Viscous oily liquid.

Color Colorless.

Odor Slight odor.

Odor threshold Not available.

pH Not available.

Melting point/freezing point -67 °F (-55 °C)

Initial boiling point and boiling range 723.2 °F (384 °C)

Flash point 402.8 °F (206.0 °C) Closed Cup

Evaporation rate Not available.

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	<0.0000001 kPa (77 °F (25 °C))
Vapor density	16
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Insoluble.
Solubility (other)	Carbon tetrachloride: Slightly soluble. Mineral oil: Miscible. Hexane: Miscible.
Partition coefficient (n-octanol/water)	7.6
Auto-ignition temperature	734 °F (390 °C)
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Dynamic viscosity	58 mPa.s (77 °F (25 °C))
Kinematic viscosity	> 78.02 - < 78.32 mm²/s at 20 °C
Molecular formula	C24H38O4
Molecular weight	390.56
Specific gravity	0.99 at 20 °C
Surface tension	30 mN/m (68 °F (20 °C))

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Irritating and/or toxic fumes or gases. Emits toxic fumes under fire conditions.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Based on available data, the classification criteria are not met.
Skin contact	Based on available data, the classification criteria are not met.
Eye contact	Causes eye irritation.
Ingestion	Based on available data, the classification criteria are not met.
Symptoms related to the physical, chemical and toxicological characteristics	Irritation of eyes. Exposed individuals may experience eye tearing, redness, and discomfort.

Information on toxicological effects

Acute toxicity

Product	Species	Test Results
Plastic Additive 14 (CAS 117-81-7)		
Acute		
Dermal		
LD50	Guinea pig	10 g/kg
	Rabbit	25 g/kg

Product	Species	Test Results
Oral		
LD50	Mouse	> 30 g/kg
	Rat	> 25 g/kg

Skin corrosion/irritation Based on available data, the classification criteria are not met.

Serious eye damage/eye irritation Causes eye irritation.

Local effects

Irritancy test
Result: Irritant.
Species: Rabbit
Organ: Eye.
Severity: Mild.
Irritancy test
Result: Irritant.
Species: Rabbit
Organ: Skin.
Severity: Mild.

Respiratory or skin sensitization

Respiratory sensitization Knowledge about health hazard is incomplete.
There have been reports of asthma following occupational exposure to this material.

Skin sensitization Based on available data, the classification criteria are not met.

Buehler test
Result: Non-sensitizing.
Species: Guinea pig
Organ: Skin.
Magnusson-Kligman test
Result: Non-sensitizing.
Species: Guinea pig
Organ: Skin.

Germ cell mutagenicity Suspected of causing genetic defects.

Mutagenicity

Cell transformation in embryo cells
Result: Positive.
Rodent dominant lethal test
Result: Positive.
Sperm morphology in mice and rats in vivo
Result: Negative.
Unscheduled DNA synthesis
Result: Negative.

Carcinogenicity Suspected of causing cancer.

IARC Monographs. Overall Evaluation of Carcinogenicity

Plastic Additive 14 (CAS 117-81-7) 2B Possibly carcinogenic to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens

Plastic Additive 14 (CAS 117-81-7) Reasonably Anticipated to be a Human Carcinogen.

Reproductive toxicity May damage fertility or the unborn child. Animal studies have shown DEHP to have estrogenic and antiandrogenic effects, leading to decreased fertility and developmental toxicity, particularly for male offspring.

Specific target organ toxicity - single exposure Knowledge about health hazard is incomplete.

Specific target organ toxicity - repeated exposure Knowledge about health hazard is incomplete.

Aspiration hazard Knowledge about health hazard is incomplete.

12. Ecological information

Ecotoxicity

Product		Species	Test Results
Plastic Additive 14 (CAS 117-81-7)			
Aquatic			
Acute			
Crustacea	EC50	Water flea (Daphnia magna)	> 0.16 mg/l, 48 hours
Fish	LC50	Bluegill (Lepomis macrochirus)	> 0.2 mg/l, 96 hours
			> 0.2 mg/l, 96 hours

Persistence and degradability No data is available on the degradability of this substance.

Bioaccumulative potential

Octanol/water partition coefficient log Kow
7.6

Mobility in soil No data available.

Other adverse effects The product contains volatile organic compounds which have a photochemical ozone creation potential.

13. Disposal considerations

Disposal instructions Dispose in accordance with all applicable regulations. Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

US RCRA Hazardous Waste U List: Reference

Plastic Additive 14 (CAS 117-81-7) U028

Waste from residues / unused products Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

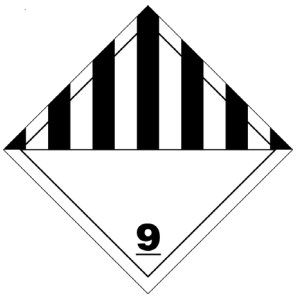
UN number UN3082
UN proper shipping name Environmentally Hazardous Substance, Liquid, N.O.S. (Plastic Additive 14)
Transport hazard class(es)
Class 9
Subsidiary risk -
Packing group III
Environmental hazards
Marine pollutant No.

IATA

UN number UN3082
UN proper shipping name Environmentally Hazardous Substance, Liquid, N.O.S. (Plastic Additive 14)
Transport hazard class(es)
Class 9
Subsidiary risk -
Packing group III

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

DOT; IATA



General information It is the shipper's responsibility to determine the correct transport classification at the time of shipment.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Toxic Substances Control Act (TSCA)

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

TSCA Chemical Action Plans, Chemicals of Concern

Plastic Additive 14 (CAS 117-81-7) Phthalates Action Plan

CERCLA Hazardous Substance List (40 CFR 302.4)

Plastic Additive 14 (CAS 117-81-7) Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

Classified hazard categories
Serious eye damage or eye irritation
Germ cell mutagenicity
Carcinogenicity
Reproductive toxicity

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Plastic Additive 14	117-81-7	100

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Plastic Additive 14 (CAS 117-81-7)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Clean Water Act (CWA) Section 112(r) (40 CFR 68.130)
Priority pollutant
Toxic pollutant

Safe Drinking Water Act (SDWA) Listed.

US state regulations

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Plastic Additive 14 (CAS 117-81-7)

California Proposition 65



WARNING: This product can expose you to Plastic Additive 14, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

California Proposition 65 - CRT: Listed date/Carcinogenic substance

Plastic Additive 14 (CAS 117-81-7) Listed: January 1, 1988

California Proposition 65 - CRT: Listed date/Developmental toxin

Plastic Additive 14 (CAS 117-81-7) Listed: October 24, 2003

California Proposition 65 - CRT: Listed date/Male reproductive toxin

Plastic Additive 14 (CAS 117-81-7) Listed: October 24, 2003

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 11-01-2013

Revision date 04-03-2024

Version # 02

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