

1 Identification

- **Product identifier**
- **Product Name:** Phthalate Esters Mix
- **Part Name:** 8061-X
- **Application of the substance / the mixture** Certified Reference Material
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Spex CertiPrep, LLC.
203 Norcross Ave, Metuchen,
NJ 08840 USA
732-549-7144
USMet-CRMSales@antylia.com
- **Information department:** product safety department
- **Emergency telephone number:**
Emergency Phone Number (24 hours)
CHEMTREC (800-424-9300)
Outside US: 703-527-3887

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Flammable Liquids 2

H225 Highly flammable liquid and vapor.



GHS08 Health hazard

Carcinogenicity 2

H351 Suspected of causing cancer.

Toxic to Reproduction 1B

H360 May damage fertility or the unborn child.

Specific Target Organ Toxicity - Repeated Exposure 2

H373 May cause damage to organs through prolonged or repeated exposure.

Aspiration Hazard 1

H304 May be fatal if swallowed and enters airways.



GHS07

Skin Irritation 2

H315 Causes skin irritation.

Sensitization - Skin 1

H317 May cause an allergic skin reaction.

Specific Target Organ Toxicity - Single Exposure 3

H336 May cause drowsiness or dizziness.

- **Label elements**

- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS02



GHS07



GHS08

- **Signal word** Danger

- **Hazard-determining components of labeling:**

n-hexane

bis(2-ethylhexyl) phthalate

dicyclohexyl phthalate

diisobutyl phthalate

- **Hazard statements**

H225 Highly flammable liquid and vapor.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H351 Suspected of causing cancer.

H360 May damage fertility or the unborn child.

H336 May cause drowsiness or dizziness.

H373 May cause damage to organs through prolonged or repeated exposure.

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H304 May be fatal if swallowed and enters airways.

Precautionary statements

- P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- P240 Ground/bond container and receiving equipment.
- P241 Use explosion-proof electrical/ventilating/lighting/equipment.
- P260 Do not breathe dust/fume/gas/mist/vapors/spray.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P301+P310 If swallowed: Immediately call a poison center/doctor.
- P321 Specific treatment (see on this label).
- P331 Do NOT induce vomiting.
- P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P312 Call a poison center/doctor if you feel unwell.
- P362+P364 Take off contaminated clothing and wash it before reuse.
- P363 Wash contaminated clothing before reuse.
- P405 Store locked up.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Classification system:

NFPA ratings (scale 0 - 4)



HMIS-ratings (scale 0 - 4)



Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

3 Composition/information on ingredients

Chemical characterization: Mixtures

Description: Mixture of the substances listed below with nonhazardous additions.

Dangerous components:

110-54-3	n-hexane	97.0%
84-61-7	dicyclohexyl phthalate	0.2%
84-69-5	diisobutyl phthalate	0.2%
84-74-2	dibutyl phthalate	0.2%
84-75-3	di-n-hexyl phthalate	0.2%
85-68-7	BBP	0.2%
117-81-7	bis(2-ethylhexyl) phthalate	0.2%
117-82-8	Dimethoxyethyl phthalate	0.2%
117-84-0	Di-n-octyl Phthalate	0.2%
131-11-3	dimethyl phthalate	0.2%
131-18-0	di-n-pentyl phthalate	0.2%

Chemical identification of the substance/preparation

84-66-2	diethyl phthalate	0.2%
84-76-4	dinonyl phthalate	0.2%
117-83-9	Bis(2-n-butoxyethyl)phthalate	0.2%
146-50-9	Bis(4-methyl-2-pentyl)phthalate	0.2%
75673-16-4	Hexyl 2-ethylhexyl phthalate	0.2%

4 First-aid measures

Description of first aid measures

General information:

Immediately remove any clothing soiled by the product.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

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- **After inhalation:**
Supply fresh air and to be sure call for a doctor.
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** Do not give anything to eat or drink - Do not induce vomiting
- **Information for Doctor:**
· **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed** No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture** During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Mount respiratory protective device.
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

· **PAC-1:**

110-54-3	n-hexane	260 ppm
84-66-2	diethyl phthalate	15 mg/m ³
84-74-2	dibutyl phthalate	15 mg/m ³
85-68-7	BBP	15 mg/m ³
117-81-7	bis(2-ethylhexyl) phthalate	10 mg/m ³
117-84-0	Di-n-octyl Phthalate	41 mg/m ³
131-11-3	dimethyl phthalate	15 mg/m ³

· **PAC-2:**

110-54-3	n-hexane	2900* ppm
84-66-2	diethyl phthalate	300 mg/m ³
84-74-2	dibutyl phthalate	1,600 mg/m ³
85-68-7	BBP	77 mg/m ³
117-81-7	bis(2-ethylhexyl) phthalate	1,000 mg/m ³
117-84-0	Di-n-octyl Phthalate	450 mg/m ³
131-11-3	dimethyl phthalate	1,600 mg/m ³

· **PAC-3:**

110-54-3	n-hexane	8600** ppm
84-66-2	diethyl phthalate	1,800 mg/m ³
84-74-2	dibutyl phthalate	9300* mg/m ³
85-68-7	BBP	460 mg/m ³
117-81-7	bis(2-ethylhexyl) phthalate	6,100 mg/m ³
117-84-0	Di-n-octyl Phthalate	11000* mg/m ³
131-11-3	dimethyl phthalate	9300* mg/m ³

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7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Prevent formation of aerosols.
- **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Keep receptacle tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**
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.

110-54-3 n-hexane	
PEL	Long-term value: 1800 mg/m ³ , 500 ppm
REL	Long-term value: 180 mg/m ³ , 50 ppm
TLV	Long-term value: 50 ppm Skin; BEI
84-74-2 dibutyl phthalate	
PEL	Long-term value: 5 mg/m ³
REL	Long-term value: 5 mg/m ³
TLV	Long-term value: 5 mg/m ³
117-81-7 bis(2-ethylhexyl) phthalate	
PEL	Long-term value: 5 mg/m ³
REL	Short-term value: 10 mg/m ³ Long-term value: 5 mg/m ³ See Pocket Guide App. A
TLV	Long-term value: NIC-0.1 mg/m ³ NIC: Skin, A3
131-11-3 dimethyl phthalate	
PEL	Long-term value: 5 mg/m ³
REL	Long-term value: 5 mg/m ³
TLV	Long-term value: 5 mg/m ³
Ingredients with biological limit values:	
110-54-3 n-hexane	
BEI	0.5 mg/L Medium: urine Time: end of shift Parameter: 2,5-Hexanedione without hydrolysis

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Store protective clothing separately.

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Respiratory protection:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection:



Tightly sealed goggles

9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:

Form:	Liquid
Color:	According to product specification
Odor:	Characteristic
Odour Threshold:	Not applicable.

pH-value: Not applicable.

Change in condition

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	69 °C (156.2 °F)

Flash point: < 0 °C (< 32 °F)

Flammability (solid, gaseous): Highly flammable.

Ignition temperature: 240 °C (464 °F)

Decomposition temperature: Not applicable.

Auto igniting: Product is not selfigniting.

Danger of explosion: Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

Explosion limits:

Lower:	1.2 Vol %
Upper:	7.4 Vol %

Vapor pressure at 20 °C (68 °F): 160 hPa (120 mm Hg)

Density Not applicable.

Relative density Not applicable.

Vapor density Not applicable.

Evaporation rate Not applicable.

Solubility in / Miscibility with

Water: Not miscible or difficult to mix.

Partition coefficient (n-octanol/water): Not applicable.

Viscosity:

Dynamic:	Not applicable.
Kinematic:	Not applicable.

Solvent content:

Organic solvents:	97.0 %
VOC content:	97.00 %

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Solids content:	0.2 %
Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** No irritating effect.
- **Sensitization:** Sensitization possible through skin contact.
- **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant
Product is suspected to cause damage to fertility.
Product is suspected to cause birth defects.
- **Carcinogenic categories**

· IARC (International Agency for Research on Cancer)		
85-68-7	BBP	3
117-81-7	bis(2-ethylhexyl) phthalate	2B
· NTP (National Toxicology Program)		
117-81-7	bis(2-ethylhexyl) phthalate	R
· OSHA-Ca (Occupational Safety & Health Administration)		
None of the ingredients is listed.		

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 2 (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:** Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

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— US —





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14 Transport information

· UN-Number · DOT, ADR, IMDG, IATA	UN1208
· UN proper shipping name · DOT · ADR · IMDG, IATA	Hexanes 1208 HEXANES, ENVIRONMENTALLY HAZARDOUS HEXANES
· Transport hazard class(es) · DOT	
	
· Class · Label	3 Flammable liquids 3
· ADR	
 	
· Class · Label	3 Flammable liquids 3
· IMDG, IATA	
	
· Class · Label	3 Flammable liquids 3
· Packing group · DOT, ADR, IMDG, IATA	II
· Environmental hazards: · Special marking (ADR):	Symbol (fish and tree)
· Special precautions for user · Hazard identification number (Kemler code): · EMS Number: · Stowage Category	Warning: Flammable liquids 33 F-E,S-D E
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.	
· Transport/Additional information:	
· ADR · Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· IMDG · Limited quantities (LQ) · Excepted quantities (EQ)	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· UN "Model Regulation":	UN 1208 HEXANES, 3, II, ENVIRONMENTALLY HAZARDOUS

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture No further relevant information available.
- Sara

· Section 313 (Specific toxic chemical listings):	
110-54-3	n-hexane
84-74-2	dibutyl phthalate

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117-81-7	bis(2-ethylhexyl) phthalate
131-11-3	dimethyl phthalate

· **TSCA (Toxic Substances Control Act):**

110-54-3	n-hexane	ACTIVE
84-61-7	dicyclohexyl phthalate	ACTIVE
84-66-2	diethyl phthalate	ACTIVE
84-69-5	diisobutyl phthalate	ACTIVE
84-74-2	dibutyl phthalate	ACTIVE
84-75-3	di-n-hexyl phthalate	ACTIVE
84-76-4	dinonyl phthalate	ACTIVE
85-68-7	BBP	ACTIVE
117-81-7	bis(2-ethylhexyl) phthalate	ACTIVE
117-82-8	Dimethoxyethyl phthalate	ACTIVE
117-83-9	Bis(2-n-butoxyethyl)phthalate	ACTIVE
117-84-0	Di-n-octyl Phthalate	ACTIVE
131-11-3	dimethyl phthalate	ACTIVE
131-18-0	di-n-pentyl phthalate	ACTIVE

· **Hazardous Air Pollutants**

110-54-3	n-hexane
84-74-2	dibutyl phthalate
117-81-7	bis(2-ethylhexyl) phthalate
131-11-3	dimethyl phthalate

· **Proposition 65**

· **Chemicals known to cause cancer:**

117-81-7	bis(2-ethylhexyl) phthalate
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· **Chemicals known to cause reproductive toxicity for females:**

84-74-2	dibutyl phthalate
84-75-3	di-n-hexyl phthalate

· **Chemicals known to cause reproductive toxicity for males:**

110-54-3	n-hexane
84-74-2	dibutyl phthalate
84-75-3	di-n-hexyl phthalate
117-81-7	bis(2-ethylhexyl) phthalate

· **Chemicals known to cause developmental toxicity:**

84-74-2	dibutyl phthalate
85-68-7	BBP
117-81-7	bis(2-ethylhexyl) phthalate

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

110-54-3	n-hexane	II
84-66-2	diethyl phthalate	D
84-74-2	dibutyl phthalate	D
85-68-7	BBP	C
117-81-7	bis(2-ethylhexyl) phthalate	B2
131-11-3	dimethyl phthalate	D

· **TLV (Threshold Limit Value)**

84-66-2	diethyl phthalate	A4
117-81-7	bis(2-ethylhexyl) phthalate	A3

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

117-81-7	bis(2-ethylhexyl) phthalate
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· **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

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· **Hazard pictograms**



· **Signal word** *Danger*

· **Hazard-determining components of labeling:**

n-hexane
bis(2-ethylhexyl) phthalate
dicyclohexyl phthalate
diisobutyl phthalate

· **Hazard statements**

H225 Highly flammable liquid and vapor.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H351 Suspected of causing cancer.
H360 May damage fertility or the unborn child.
H336 May cause drowsiness or dizziness.
H373 May cause damage to organs through prolonged or repeated exposure.
H304 May be fatal if swallowed and enters airways.

· **Precautionary statements**

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ventilating/lighting/equipment.
P260 Do not breathe dust/fume/gas/mist/vapors/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310 If swallowed: Immediately call a poison center/doctor.
P321 Specific treatment (see on this label).
P331 Do NOT induce vomiting.
P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312 Call a poison center/doctor if you feel unwell.
P362+P364 Take off contaminated clothing and wash it before reuse.
P363 Wash contaminated clothing before reuse.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing SDS:** product safety department

· **Contact:**

Spex CertiPrep, LLC.
1-732-549-7144

· **Date of preparation / last revision** 11/21/2022

· **Abbreviations and acronyms:**

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
VOC: Volatile Organic Compounds (USA, EU)
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
BEI: Biological Exposure Limit
Flammable Liquids 2: Flammable liquids – Category 2
Skin Irritation 2: Skin corrosion/irritation – Category 2
Sensitization - Skin 1: Skin sensitisation – Category 1
Carcinogenicity 2: Carcinogenicity – Category 2
Toxic to Reproduction 1B: Reproductive toxicity – Category 1B
Specific Target Organ Toxicity - Single Exposure 3: Specific target organ toxicity (single exposure) – Category 3
Specific Target Organ Toxicity - Repeated Exposure 2: Specific target organ toxicity (repeated exposure) – Category 2
Aspiration Hazard 1: Aspiration hazard – Category 1