



**Safety Data Sheet dated 28/9/2015, version 2**

**Printing date:7/10/2015**



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

1.1. Product identifier

Trade name: ESATEC CL 08  
MSDS code: F000192  
Chemical description: Product based on aliphatic polyisocyanate.

1.2. Relevant identified uses of the substance or mixture and uses advised against  
Recommended use:

Industrial uses.

1.3. Details of the supplier of the safety data sheet

Supplier:  
LAMBERTI S.p.A. - Via Piave 18 - 21041 Albizzate (VA)  
Tel.: +39 0331 715 111 - Fax.: +39 0331 775 577 - e-mail: hse@lamberti.com

Competent person responsible for the safety data sheet:

hse@lamberti.com





1.4. Emergency telephone number

LAMBERTI S.p.A. - Tel. : +39 0331 715 111 - 24h

**SECTION 2: Hazards identification**

2.1. Classification of the substance or mixture

EC regulation criteria 1272/2008 (CLP)

-  Warning, Acute Tox. 4, Harmful if inhaled.
-  Warning, Eye Irrit. 2, Causes serious eye irritation.
-  Warning, Skin Sens. 1, May cause an allergic skin reaction.
-  Warning, STOT SE 3, May cause respiratory irritation.

Adverse physicochemical, human health and environmental effects:

No other hazards

2.2. Label elements

Symbols:



Warning

Hazard statements:

H332 Harmful if inhaled.  
H319 Causes serious eye irritation.  
H317 May cause an allergic skin reaction.  
H335 May cause respiratory irritation.

Precautionary statements:

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P312 Call a POISON CENTER if you feel unwell.  
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.  
P337+P313 If eye irritation persists: Get medical advice/attention.

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C.F. 04453840151 - P. IVA/VAT IT 01425250121  
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r.e.a. VA n. 182542 - n. meccan. VA 007495  
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P403+P233 Store in a well-ventilated place. Keep container tightly closed.

Special Provisions:

EUH204 Contains isocyanates.

Contents

Polyhexamethylene diisocyanate

Special provisions according to Annex XVII of REACH and subsequent amendments:

None

2.3. Other hazards

vPvB Substances: None - PBT Substances: None

Other Hazards:

No other hazards

### SECTION 3: Composition/information on ingredients

3.1. Substances

N.A.

3.2. Mixtures

Hazardous components within the meaning of the CLP regulation and related classification:

>= 50% - < 70% Polyhexamethylene diisocyanate

REACH No.: 01-2119485796-17-XXXX, Index number: Not available, CAS: 28182-81-2, EC: 931-274-8

3.1/4/Inhal Acute Tox. 4 H332

3.8/3 STOT SE 3 H335

3.4.2/1 Skin Sens. 1 H317

>= 20% - < 40% propylene carbonate

REACH No.: 01-2119537232-48-XXXX, Index number: 607-194-00-1, CAS: 108-32-7, EC: 203-572-1

3.3/2 Eye Irrit. 2 H319

< 0.25% hexamethylene-di-isocyanate

REACH No.: 01-2119457571-37-XXXX, Index number: 615-011-00-1, CAS: 822-06-0, EC: 212-485-8

3.1/4/Oral Acute Tox. 4 H302

3.1/2/Inhal Acute Tox. 2 H330

3.3/2 Eye Irrit. 2 H319

3.8/3 STOT SE 3 H335

3.2/2 Skin Irrit. 2 H315

3.4.1/1 Resp. Sens. 1 H334

3.4.2/1 Skin Sens. 1 H317

### SECTION 4: First aid measures

4.1. Description of first aid measures

In case of skin contact:

Areas of the body that have - or are only even suspected of having - come into contact with the product must be rinsed immediately with plenty of running water and possibly with soap.

Remove contaminated clothing immediately and dispose off safely.

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In case of eyes contact:

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

Protect uninjured eye.

In case of Ingestion:

Do not under any circumstances induce vomiting. Seek immediately medical advice.

In case of Inhalation:

Remove casualty to fresh air and keep warm and at rest.

If breathing is irregular or stopped, administer artificial respiration.

In case of inhalation, consult a doctor immediately and show him packing or label.

4.2. Most important symptoms and effects, both acute and delayed

Not known.

4.3. Indication of any immediate medical attention and special treatment needed

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

Treatment:

Not known.

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## SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

Water.

Carbon dioxide (CO<sub>2</sub>).

Extinguishing media which must not be used for safety reasons:

Not known.

5.2. Special hazards arising from the substance or mixture

Do not inhale explosion and combustion gases.

5.3. Advice for firefighters

Use suitable breathing apparatus .

Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Move undamaged containers from immediate hazard area if it can be done safely.

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## SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Wear personal protection equipment.

Remove all sources of ignition.

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

Provide adequate ventilation.

Use appropriate respiratory protection.

See protective measures under point 7 and 8.

6.2. Environmental precautions

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.

Retain contaminated washing water and dispose it.

In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

6.3. Methods and material for containment and cleaning up

Suitable material for taking up: absorbing material, organic, sand

Wash with plenty of water.

6.4. Reference to other sections

See also section 8 and 13

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## SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid contact with skin and eyes, inhalation of vapours and mists.

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Use localized ventilation system.

Do not use empty container before they have been cleaned.

Before making transfer operations, assure that there are not any incompatible material residuals in the containers.

Contaminated clothing should be changed before entering eating areas.

Do not eat or drink while working.

See also section 8 for recommended protective equipment.

7.2. Conditions for safe storage, including any incompatibilities

Always keep in a well ventilated place.

Keep away from food, drink and feed.

Incompatible materials:

None.

Instructions as regards storage premises:

Cool and adequately ventilated.

Packaging suggested:

Plastic drums.

7.3. Specific end use(s)

None in particular

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## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

hexamethylene-di-isocyanate

US - ACGIH (TLV) - LTE(8h): 0.005 ppm

DE - TRGS 900 (AGW) - LTE(8h): 0.035 mg/m<sup>3</sup>, 0.005 ppm - STEL(15 min.): 0.035 mg/m<sup>3</sup>, 0.005 ppm

DE - TRGS 900 (AGW) - STEL: C 0.07 mg/m<sup>3</sup>, C 0.01 ppm

DE - TRGS 900 (MAK) - LTE(8h): 0.035 mg/m<sup>3</sup>, 0.005 ppm - STEL(15 min.): 0.035 mg/m<sup>3</sup>, 0.005 ppm

FR - VLEP - LTE(8h): 0.075 mg/m<sup>3</sup>, 0.01 ppm - STEL(15 min.): 0.15 mg/m<sup>3</sup>, 0.02 ppm

DNEL Exposure Limit Values

Polyhexamethylene diisocyanate

Worker Industry: 1 mg/m<sup>3</sup> - Frequency: Short Term, local effects Human Inhalation

Worker Industry: 0.5 mg/m<sup>3</sup> - Frequency: Long Term, local effects Human Inhalation

Worker Industry: 01 mg/m<sup>3</sup> - Frequency: Short Term, systemic effects Human Inhalation

Worker Industry: 0.5 mg/m<sup>3</sup> - Frequency: Short Term, systemic effects Human Inhalation

PNEC Exposure Limit Values

Polyhexamethylene diisocyanate

Fresh Water 0.127 mg/l

Marine water 0.0127 mg/l

Freshwater sediments 266700 mg/kg

Intermittent release 1.27 mg/kg

Soil (agricultural) 53200 mg/kg

### 8.2. Exposure controls

Eye protection:

Use close fitting safety goggles. (ref. EN 166, EN 140, EN175).

Protection for skin:

Use clothing that provides comprehensive protection to the skin, e.g. cotton, rubber, PVC or viton. (ref. EN 340).

Protection for hands:

Chemical-resistant protective gloves (EN 374). When prolonged or frequently repeated contact may occur, a glove is recommended to prevent contact. Examples of preferred glove barrier materials include: Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl chloride ("PVC" or "vinyl"). As general indication we suggest as suitable materials for short-term contact or splashes (recommended: at least protection index 2, corresponding to > 30 minutes permeation time as per EN 374): nitrile rubber (NBR; >= 0.4 mm thickness) and suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480

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minutes permeation time as per EN 374): nitrile rubber (NBR;  $\geq 0.4$  mm thickness). This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances-mixtures.

**Respiratory protection:**

Use adequate protective respiratory equipment. (ref. EN 136, EN 140, EN 141, EN 143, EN 149, EN 405).

**Thermal Hazards:**

None

**Environmental exposure controls:**

None

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## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Appearance and colour: Liquid.

Odour: Slight.

Odour threshold: N.D.

pH: N.A.

Melting point / freezing point: N.A.

Initial boiling point and boiling range: N.A.

Solid/gas flammability: N.D.

Upper/lower flammability or explosive limits: N.D.

Vapour density: N.D.

Flash point:  $> 100$  °C.

Evaporation rate: N.D.

Vapour pressure: N.D.

Relative density: N.D.

Solubility in water: Miscible.

Solubility in oil: N.D.

Partition coefficient (n-octanol/water): N.D.

Auto-ignition temperature: N.D.

Decomposition temperature: N.D.

Viscosity:  $< 300$  mPa.s at 25°C/50rpm

Explosive properties: N.D.

Oxidizing properties: N.D.

### 9.2. Other information

Miscibility: N.D.

Fat Solubility: N.D.

Conductivity: N.D.

Substance Groups relevant properties N.D.

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## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Stable under normal conditions of temperature and pressure (see 10.4 and 10.5)

### 10.2. Chemical stability

Stable under normal conditions of temperature and pressure.

### 10.3. Possibility of hazardous reactions

It reacts with water. This reaction develops CO<sub>2</sub> with a consequent increase in pressure in closed containers.

### 10.4. Conditions to avoid

Avoid contact with water and moisture; Keep away from heat, light and electrostatic charges.

### 10.5. Incompatible materials

Alcohols, amines, water, acids, alkalis, strong oxidizing agents.

### 10.6. Hazardous decomposition products

Not known.

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## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Toxicological information of the mixture:

- a) acute toxicity:  
LD50 Oral Rat > 2000 mg/kg. - Calculated data.  
Toxicity Inhalation : harmful.
- b) skin corrosion/irritation:  
Irritation Skin : repeated and prolonged contacts may cause slight irritation.
- c) serious eye damage/irritation:  
Irritation Eye : Causes serious eye irritation.
- d) respiratory or skin sensitisation:  
Sensitization Skin : May cause an allergic skin reaction.
- h) STOT-single exposure:  
May cause respiratory irritation.

Toxicological information of the main substances found in the mixture:

Polyhexamethylene diisocyanate

- a) acute toxicity:  
OECD 423 Oral Rat LD<sub>50</sub> > 2500 mg/kg Literature data. - Notes: Related to female.  
OECD 402 Skin Rat LD<sub>50</sub> > 2000 mg/kg Literature data.  
OECD 403 Inhalation Rat LC<sub>50</sub> = 0.390 mg/m<sup>3</sup> - Duration: 4h Literature data.
- b) skin corrosion/irritation:  
OECD 404 Skin Rabbit : Slightly irritant. - Literature data.
- c) serious eye damage/irritation:  
OECD 405 Eye Rabbit : Slightly irritant. - Literature data.
- d) respiratory or skin sensitisation:  
OECD 429 Skin Mouse : Sensitizing. - Literature data.
- e) germ cell mutagenicity:  
OECD 473 in vitro : Not mutagenic. Literature data.

Other : N.D.

If not differently specified, the information required in Regulation 453/2010/EC listed below must be considered as N.D.:

- a) acute toxicity;
- b) skin corrosion/irritation;
- c) serious eye damage/irritation;
- d) respiratory or skin sensitisation;
- e) germ cell mutagenicity;
- f) carcinogenicity;
- g) reproductive toxicity;
- h) STOT-single exposure;
- i) STOT-repeated exposure;
- j) aspiration hazard.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecological information of the mixture:

- a) Aquatic acute toxicity:  
Data not available.

Ecological information of the main substances found in the mixture:

Polyhexamethylene diisocyanate

- a) Aquatic acute toxicity:  
EU Method C.2 Daphnia magna EC<sub>50</sub> = 127 mg/l - Duration h: 48 - Notes: Literature data.  
EU Method C.3 Algae EC<sub>10</sub> = 370 mg/l - Duration h: 72  
EU Method C.3 Algae EC<sub>50</sub> > 1000 mg/l - Duration h: 72  
OECD 203 Fish LL<sub>0</sub> > 82 mg/l - Duration h: 96

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- 12.2. Persistence and degradability  
Ecological information of the mixture:  
Biodegradability: Data not available.  
Ecological information of the main substances found in the mixture:  
Polyhexamethylene diisocyanate  
Biodegradability: Not biodegradable. - Notes: Literature data (estimated).
- 12.3. Bioaccumulative potential  
Ecological information of the mixture:  
Bioaccumulation: Data not available.  
Ecological information of the main substances found in the mixture:  
Polyhexamethylene diisocyanate  
Bioaccumulation: Not bioaccumulative - Test: BCF - Bioconcentration factor 3.2 - Notes:  
Calculated data (in silico).
- 12.4. Mobility in soil  
Ecological information of the mixture:  
Mobility in soil: Data not available.  
Ecological information of the main substances found in the mixture:  
Polyhexamethylene diisocyanate  
Mobility in soil: Low - Test: LogKoc: 7.8 - Notes: Calculated data (in silico).
- 12.5. Results of PBT and vPvB assessment  
vPvB Substances: None - PBT Substances: None
- 12.6. Other adverse effects  
None  
Use according to criteria of good industrial practice, avoiding product dispersion in the environment.

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### SECTION 13: Disposal considerations

- 13.1. Waste treatment methods  
If possible recover the product, otherwise dispose of in authorized landfill or incineration in accordance with local regulation.

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### SECTION 14: Transport information

- 14.1. UN number  
N.A.
- 14.2. UN proper shipping name  
Proper Shipping Name: N.A.
- 14.3. Transport hazard class(es)  
Road (ADR): N.A.  
Air (ICAO/IATA): N.A.  
Sea (IMO/IMDG): N.A.
- 14.4. Packing group  
N.A.
- 14.5. Environmental hazards  
N.A.
- 14.6. Special precautions for user  
N.A.
- 14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code  
N.D.

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### SECTION 15: Regulatory information

- 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture  
Dir. 2000/39/EC (Occupational exposure limit values); Dir. 2006/8/CE. Regulation (CE) n. 1907/2006 (REACH).

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For non-EU Countries, the Material Safety Data Sheet it is prepared following the main principles of Globally Harmonized System of Classification and Labelling of Chemicals (GHS) which are adopted worldwide.

15.2. Chemical safety assessment

No

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**SECTION 16: Other information**

N.A. = Not Applicable

N.D. = No Data available

Full text of phrases referred to in Section 3:

H332 Harmful if inhaled.

H335 May cause respiratory irritation.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H302 Harmful if swallowed.

H330 Fatal if inhaled.

H315 Causes skin irritation.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

This safety data sheet has been completely updated in compliance to Regulation 453/2010/EU.

Paragraphs modified from the previous revision:

SECTION 2: Hazards identification

SECTION 3: Composition/information on ingredients

SECTION 7: Handling and storage

SECTION 8: Exposure controls/personal protection

SECTION 11: Toxicological information

SECTION 12: Ecological information

SECTION 13: Disposal considerations

SECTION 14: Transport information

SECTION 15: Regulatory information

This document was prepared by a competent person who has received appropriate training.

Main bibliographic sources:

TOXNET - Databases on toxicology, hazardous chemicals, environmental health, and toxic releases;

NIOSH - Registry of toxic effects of chemical substances (1983) - Occupational Health Guidelines for Chemical Hazards (1995) - Pocket Guide to Chemical Hazards (on line)

European Chemical Bureau - ESIS: European chemical Substances Information System;

CESIO - Classification and labelling of anionic, nonionic surfactants (January 2000).

M.Sittig-Handbook of toxic and Hazardous Chemicals and Carcinogens- III Ed.

E.R. Plunkett - Handbook of Industrial Toxicology - III Ed. 1991.

Samson Chem. Pub.-Chemical Safety Sheet working safely with hazardous chemical.

SAX'S Dangerous Properties of Industrial Materials. VIII (1993)

ACGIH "2013 TLVs and BEIs".

ILV "1998/24/EC Directive and subsequent addition".

The product must be stored, handled and used according to criteria of good industrial practice and to regulations in force. This leaflet is offered for your consideration and guidance only. This leaflet complements the Technical Data Sheet but does not replace it. The information herein contained is given to the best of our knowledge at the time of issue.

Due to the several ways in which the product may be used and the possible interaction with variables not depending on or unknown to the supplier, we also cannot accept any liability whatsoever for any loss or damage however arising from the handling and use of our products.

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ADR:	European Agreement concerning the International Carriage of Dangerous Goods by Road.
CAS:	Chemical Abstracts Service (division of the American Chemical Society).
CLP:	Classification, Labeling, Packaging.
DNEL:	Derived No Effect Level.
EINECS:	European Inventory of Existing Commercial Chemical Substances.
GefStoffVO:	Ordinance on Hazardous Substances, Germany.
GHS:	Globally Harmonized System of Classification and Labeling of Chemicals.
IATA:	International Air Transport Association.
IATA-DGR:	Dangerous Goods Regulation by the "International Air Transport Association" (IATA).
ICAO:	International Civil Aviation Organization.
ICAO-TI:	Technical Instructions by the "International Civil Aviation Organization" (ICAO).
IMDG:	International Maritime Code for Dangerous Goods.
INCI:	International Nomenclature of Cosmetic Ingredients.
KSt:	Explosion coefficient.
LC50:	Lethal concentration, for 50 percent of test population.
LD50:	Lethal dose, for 50 percent of test population.
LTE:	Long-term exposure.
PNEC:	Predicted No Effect Concentration.
REACH:	Registration Evaluation and Authorization of Chemicals.
RID:	Regulation Concerning the International Transport of Dangerous Goods by Rail.
STE:	Short-term exposure.
STEL:	Short Term Exposure limit.
STOT:	Specific Target Organ Toxicity.
SVHC:	Candidate List of Substances of Very High Concerns.
TLV:	Threshold Limiting Value.
TWATLV:	Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).
WGK:	German Water Hazard Class.

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