Safety Data Sheet dated 9/3/2015, version 1
Printing date:2/11/2015

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

1.1. Product identifier

Trade name:	ESATEC P1
MSDS code:	F005601
Chemical description:	waterborne polyurethane emulsion.

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)

Danger, Repr. 1B, May damage the unborn child.

Directive criteria, 67/548/CE, 99/45/EC and following amendments thereof:
Properties / Symbols:
None.

Adverse physicochemical, human health and environmental effects:
No other hazards
2.2. Label elements
Symbols:

Danger
Hazard statements:
H360D May damage the unborn child.
Precautionary statements:
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P281 Use personal protective equipment as required.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P405 Store locked up.
P501 Dispose of contents/container in accordance with applicable regulations.
Special Provisions:
None
Contents

1-Ethylpyrrolidin-2-one
Mixture of 5-chloro-2-methylisothiazol-3(2H)-one and 2-methylisothiazol-3(2H)-one.: May produce an allergic reaction.

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 substance/component/s within the meaning of CLP regulation (and EEC directive 67/548) and GHS (4th revised ed.) and related classification:

>= 0.25% - < 0.5% 1-Ethylpyrrolidin-2-one
REACH No.: 01-2119472138-36-XXXX, Index number: Not available, CAS: 2687-91-4, EC: 220-250-6
Repr. Cat. 2,Xi; R61-41


3.3/1 Eye Dam. 1 H318


3.7/1B Repr. 1B H360D

SECTION 4: First aid measures

4.1. Description of first aid measures

In case of skin contact:
Wash with plenty of water and soap.

In case of eyes contact:
In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

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.

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
Treatment:
Not known.

SECTION 5: Firefighting measures

5.1. Extinguishing media
Suitable extinguishing media:
Water.
Carbon dioxide (CO2).
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.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Wear personal protection equipment.

Remove persons to safety.

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

SECTION 7: Handling and storage

7.1. Precautions for safe handling

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

Do not eat or drink while working.

See also section 8 for recommended protective equipment.

7.2. Conditions for safe storage, including any incompatibilities

In order to maintain the performance of the product, store at room temperature and protect from frost.

Keep away from food, drink and feed.

Instructions as regards storage premises:

Adequate ventilation in working area.

Packaging suggested:

Plastic drums.

7.3. Specific end use(s)

None in particular

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No occupational exposure limit available

DNEL Exposure Limit Values

1-Ethylpyrrolidin-2-one

Worker Industry: 40 mg/m3 - Worker Professional: 40 mg/m3 - General population: 10 mg/l - Frequency: Long Term, systemic effects Human Inhalation

Worker Industry: 80 mg/m3 - Worker Professional: 80 mg/m3 - General population: 40 mg/m3 - Frequency: Short Term, systemic effects Human Inhalation

Worker Industry: 40 mg/m3 - Worker Professional: 40 mg/m3 - General population: 40 mg/m3 - Frequency: Long Term, local effects Human Inhalation

Worker Industry: 40 mg/m3 - Worker Professional: 40 mg/m3 - General population: 10 mg/m3 - Frequency: Long Term, local effects Human Inhalation

Worker Industry: 80 mg/m3 - Worker Professional: 80 mg/m3 - General population: 10 mg/m3 - Frequency: Short Term, local effects Human Inhalation

Worker Industry: 8 mg/kg - Worker Professional: 8 mg/kg - General population: 5 mg/kg - Frequency: Long Term, systemic effects Human Dermal
General population: 2.5 mg/kg - Frequency: Long Term, systemic effects Human Oral

PNEC Exposure Limit Values

1-Ethylpyrrolidin-2-one

Fresh Water - Value: 0.25 mg/l
Marine water - Value: 0.025 mg/l
Intermittent release - Value: 1 mg/l
STP - Value: 10 mg/l
Freshwater sediments - Value: 1.91 mg/kg
Soil (agricultural) - Value: 0.235 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 minutes permeation time as per EN 374): nitrile rubber (NBR; >= 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

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance and colour:	Liquid
Odour:	Characteristic
Odour threshold:	N.D.
pH:	7.5 - 9 (as supplied)
Melting point / freezing point:	N.A.
Initial boiling point and boiling range:	ca. 100°C
Solid/gas flammability:	N.A.
Upper/lower flammability or explosive limits:	N.A.
Vapour density:	N.D.
Flash point:	> 100°C
Evaporation rate:	N.D.
Vapour pressure:	N.D.
Relative density:	1.06
Solubility in water:	Miscible.
Solubility in oil:	N.D.
Partition coefficient (n-octanol/water):	N.D.
Auto-ignition temperature:	N.A.
Decomposition temperature:	N.D.

Viscosity: N.D.
Explosive properties: N.A.
Oxidizing properties: N.A.

9.2. Other information

Miscibility: N.D.
Fat Solubility: N.D.
Conductivity: N.D.
Substance Groups relevant properties N.D.

SECTION 10: Stability and reactivity

10.1. Reactivity
Stable under normal conditions
10.2. Chemical stability
Stable under normal conditions
10.3. Possibility of hazardous reactions
Stable under normal conditions
10.4. Conditions to avoid
Stable under normal conditions.
10.5. Incompatible materials
Strong acids
Strong oxidizers
Strong bases
10.6. Hazardous decomposition products
Not known.

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Toxicological information of the mixture:
a) acute toxicity:
LD50 Oral Rat > 2000 mg/kg Based on components.
b) skin corrosion/irritation:
Irritation : repeated and prolonged contacts may cause slight irritation.
c) serious eye damage/irritation:
Irritation : Causes serious eye damage.
g) reproductive toxicity:
Toxicity Suspected of damaging fertility.
Toxicological information of the main substances found in the mixture:
1-Ethylpyrrolidin-2-one
a) acute toxicity:
Toxicity Oral Rat LD50> 3200 mg/kg Literature data.
OECD 403 Inhalation Rat LC50 > 5.1 mg/l - Duration: 4h Literature data.
OECD 402 Skin Rat LD50> 2000 mg/kg - Duration: 24h Literature data.
b) skin corrosion/irritation:
OECD 404 Skin Rabbit : Not irritant. - Duration: 4h Literature data.
c) serious eye damage/irritation:
OECD 405 Eye Rabbit : Highly irritating. Literature data.
d) respiratory or skin sensitisation:
OECD 429 Skin Mouse : Not sensitizing. Literature data.
e) germ cell mutagenicity:
OECD 475 Mouse : Not mutagenic. Literature data.
g) reproductive toxicity:
Reproductive Toxicity Oral Rat NOAEL = 60 mg/kg - Duration: 28 days. Literature data. - Notes: Related to female.
i) STOT-repeated exposure:

OECD 408 Oral Rat NOAEL = 100 mg/kg - Duration: 90 days Literature data. - Notes: STOT - Liver and kidneys.

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:

LC50 > 100 mg/l - aquatic species (according to the criteria of the CLP Regulation).

Ecological information of the main substances found in the mixture:

1-Ethylpyrrolidin-2-one

a) Aquatic acute toxicity:

OECD 203 Fish LC50 > 464 mg/l - Duration h: 96 - Notes: Literature data.
OECD 202 Daphnia magna EC50 > 104 mg/l - Duration h: 48 - Notes: Literature data.
OECD 201 Algae EC50 > 101 mg/l - Duration h: 72 - Notes: Literature data.

b) Aquatic chronic toxicity:

OECD 211 Daphnia LOEC = 25 mg/l - Duration h: 504 - Notes: By analogy to product with similar composition.

12.2. Persistence and degradability

Ecological information of the mixture:

Biodegradability: Data not available.

Ecological information of the main substances found in the mixture:

1-Ethylpyrrolidin-2-one

Biodegradability: Readily biodegradable - Test: OECD 301 A - Duration: 28 days. - %: >90% - Notes: Literature data.

12.3. Bioaccumulative potential

Ecological information of the mixture:

Bioaccumulation: Data not available.

Ecological information of the main substances found in the mixture:

1-Ethylpyrrolidin-2-one

Bioaccumulation: Not bioaccumulative - Test: Evaluation. - Notes: Literature data (estimated).

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:

1-Ethylpyrrolidin-2-one

Mobility in soil: Very high - Test: Koc: 40.46 - Notes: Calculated data.

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.

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.

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

Environmental Pollutant: No

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.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
Dir. 67/548/EEC (Classification, packaging and labelling of dangerous substances). Dir. 99/45/EEC (Classification, packaging and labelling of dangerous preparations). Dir. 98/24/EC (Risks related to chemical agents at work). Dir. 2000/39/EC (Occupational exposure limit values); Dir. 2006/8/CE. Regulation (CE) n. 1907/2006 (REACH).
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.

Refer to other local regulations that may be relevant (i.e. : sanitary control, waste treatment etc.)

15.2. Chemical safety assessment

No

SECTION 16: Other information

N.A. = Not Applicable
N.D. = No Data available
Full text of phrases referred to in Section 3:

R41 Risk of serious damage to eyes.
R61 May cause harm to the unborn child.

H318 Causes serious eye damage.
H360D May damage the unborn child.

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.

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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