Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Issue date 08/01/2017 Reviewed on 08/01/2017

1 Identification

· **Product Identifier**

· **Trade name: EP100 LM Component B**
· **Relevant identified uses of the substance or mixture and uses advised against:**
No further relevant information available.
· **Product Description** Low viscosity epoxy resin

· **Details of the Supplier of the Safety Data Sheet:**
· **Manufacturer/Supplier:**
E-Chem, LLC
4102 El Rey Rd. SE
Albuquerque, NM 87105
Phone: 505.217.2121
Fax: 505.217.3721
Email: mail@e-chem.net
Web: www.e-chem.net
· **Emergency telephone number:**
Chemtrec at 1-800-424-9300 24 Hours
Outside the U.S., call Chemtrec collect at 703-527-3887

2 Hazard(s) Identification

· **Classification of the substance or mixture:**


GHS08 Health hazard

Repr. 2	H361	Suspected of damaging fertility or the unborn child.


GHS05 Corrosion

Skin Corr. 1A	H314	Causes severe skin burns and eye damage.
Eye Dam. 1	H318	Causes serious eye damage.


GHS09 Environment

Aquatic Chronic 2	H411	Toxic to aquatic life with long lasting effects.


GHS07

Acute Tox. 4	H302	Harmful if swallowed.
Skin Sens. 1	H317	May cause an allergic skin reaction.
Flam. Liq. 4	H227	Combustible liquid.
Aquatic Acute 2	H401	Toxic to aquatic life.

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

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· **Hazard pictograms:**

GHS05 GHS07 GHS08 GHS09

· **Signal word:** Danger

· **Hazard-determining components of labeling:**
4-nonylphenol, branched
2-piperazin-1-ylethylamine
Proprietery
Poly(propylene glycol) bis(2-aminopropyl ether)

· **Hazard statements:**
H227 Combustible liquid.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H361 Suspected of damaging fertility or the unborn child.
H401 Toxic to aquatic life.
H411 Toxic to aquatic life with long lasting effects.

· **Precautionary statements:**

P210	Keep away from flames and hot surfaces. – No smoking.
P260	Do not breathe dusts or mists.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P280	Wear protective gloves / eye protection / face protection.
P280	Wear protective gloves.
P280	Wear eye protection / face protection.
P273	Avoid release to the environment.
P264	Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P272	Contaminated work clothing must not be allowed out of the workplace.
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P303+P361+P353	If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P305+P351+P338	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER/doctor.
P301+P312	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P321	Specific treatment (see supplementary first aid instructions on this Safety Data Sheet).
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P363	Wash contaminated clothing before reuse.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P301+P330+P331	If swallowed: Rinse mouth. Do NOT induce vomiting.
P370+P378	In case of fire: Use for extinction: CO2, powder or water spray.
P302+P352	IF ON SKIN: Wash with plenty of water.
P391	Collect spillage.
P405	Store locked up.
P403+P235	Store in a well-ventilated place. Keep cool.

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P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· ***Unknown acute toxicity:***
This value refers to knowledge of known, established toxicological or ecotoxicological values.
25 % of the mixture consists of component(s) of unknown toxicity.

· ***Classification system:*** NFPA/HMIS Definitions: 0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme

· ***NFPA ratings (scale 0 - 4)***

Health = 3
Fire = 2
Reactivity = 0

· ***HMIS-ratings (scale 0 - 4)***

Health = *4
Fire = 2
Reactivity = 0

· ***Hazard(s) not otherwise classified (HNOC):*** None known

*
3 Composition/Information on Ingredients

· ***Chemical characterization: Mixtures***
· ***Description:*** Mixture of substances listed below with non-hazardous additions.

· ***Dangerous Components:***

CAS: 84852-15-3	4-nonylphenol, branched Repr. 2, H361; Skin Corr. 1B, H314; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Acute Tox. 4, H302	15-35%
CAS: 140-31-8 RTECS: TK 8050000	2-piperazin-1-ylethylamine Skin Corr. 1B, H314; Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Sens. 1, H317; Flam. Liq. 4, H227; Aquatic Chronic 3, H412	15-35%
CAS: 9046-10-0	Poly(propylene glycol) bis(2-aminopropyl ether) Skin Corr. 1A, H314; Eye Dam. 1, H318; Aquatic Acute 3, H402; Aquatic Chronic 3, H412	15-35%
	Proprietery Eye Dam. 1, H318; Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Irrit. 2, H315; Skin Sens. 1, H317	5-10%
CAS: 1477-55-0 RTECS: PF 8970000	m-phenylenebis(methylamine) Skin Corr. 1B, H314; Eye Dam. 1, H318; Acute Tox. 4, H302; Acute Tox. 4, H332	1-5%
CAS: 109-55-7 RTECS: TX 7525000	3-aminopropyldimethylamine Flam. Liq. 3, H226; Skin Corr. 1B, H314; Acute Tox. 4, H302; Skin Sens. 1, H317	1-5%
CAS: 90-72-2	2,4,6-tris(dimethylaminomethyl)phenol Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2A, H319	2-12%

· ***Additional information:***
The exact percentages of the ingredients of this mixture are considered to be proprietary and are withheld in accordance with the provisions of paragraph (i) of §1910.1200 of 29 CFR 1910.1200 Trade Secrets.
The ingredients of this mixture are considered to be proprietary and are withheld in accordance with paragraph (i) of §1910.1200 of 29 CFR 1910.1200, the OSHA Hazard Communication Standard and U.S. Code of Federal Regulations.

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4 First-Aid Measures

· ***Description of first aid measures:***
· ***General information:***
Immediately remove any clothing soiled by the product.
Symptoms of poisoning may occur after exposure to dust, fumes or particulates; seek medical attention if feeling unwell.
Remove breathing apparatus only after contaminated clothing have been completely removed.
In case of irregular breathing or respiratory arrest provide artificial respiration.
· ***After inhalation:***
Supply fresh air or oxygen; call for 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.
If skin irritation occurs, consult a doctor.
· ***After eye contact:***
Rinse opened eye for several minutes under running water. Then consult a doctor.
If easy to do so, remove contact lenses if worn.
· ***After swallowing:***
Do not induce vomiting; immediately call for medical help.
Drink copious amounts of water and provide fresh air. Immediately call a doctor.
· ***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:***
CO_2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
· ***Special hazards arising from the substance or mixture:***
Combustible liquid. Vapors can travel to a source of ignition and flash back.
Explosive mixtures may occur at temperatures at or above flashpoint.
· ***Advice for firefighters:***
· ***Protective equipment:***
Because fire may produce thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full face piece operated in pressure-demand or positive-pressure mode.

6 Accidental Release Measures

· ***Personal precautions, protective equipment and emergency procedures:***
Wear protective equipment. Keep unprotected persons away.
· ***Environmental precautions:***
Inform respective authorities in case of seepage into water course or sewage system.
Dilute with plenty of water.
Do not allow to enter sewers/surface or ground water.
· ***Methods and material for containment and cleaning up:***
Ensure adequate ventilation.
Use neutralizing agent.
Absorb with liquid-binding material (i.e. sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to section 13.

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· **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:**		
84852-15-3	4-nonylphenol, branched	3.9 mg/m3
140-31-8	2-piperazin-1-ylethylamine	6.4 mg/m3
9046-10-0	Poly(propylene glycol) bis(2-aminopropyl ether)	4.8 mg/m3
109-55-7	3-aminopropyldimethylamine	1.2 ppm
90-72-2	2,4,6-tris(dimethylaminomethyl)phenol	6.5 mg/m3

· **PAC-2:**		
84852-15-3	4-nonylphenol, branched	43 mg/m3
140-31-8	2-piperazin-1-ylethylamine	71 mg/m3
9046-10-0	Poly(propylene glycol) bis(2-aminopropyl ether)	53 mg/m3
109-55-7	3-aminopropyldimethylamine	13 ppm
90-72-2	2,4,6-tris(dimethylaminomethyl)phenol	72 mg/m3

· **PAC-3:**		
84852-15-3	4-nonylphenol, branched	260 mg/m3
140-31-8	2-piperazin-1-ylethylamine	420 mg/m3
9046-10-0	Poly(propylene glycol) bis(2-aminopropyl ether)	320 mg/m3
109-55-7	3-aminopropyldimethylamine	89 ppm
90-72-2	2,4,6-tris(dimethylaminomethyl)phenol	430 mg/m3

7 Handling and Storage

· **Handling**
· **Precautions for safe handling:**
Avoid contact with skin, eyes and clothing
Do not take internally.
Use personal protection equipment as outlined in section 8.
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
· **Information about protection against explosions and fires:**
Protect from heat.
Keep protective respiratory device available.

· **Conditions for safe storage, including any incompatibilities:**
· **Storage**
· **Requirements to be met by storerooms and receptacles:**
Store in a cool, dry place away from sparks and flame.
· **Information about storage in one common storage facility:** Not required.
· **Further information about storage conditions:** Keep receptacle tightly sealed.
· **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 section 7.

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· ***Control parameters:***
· ***Components with occupational exposure limits:***
The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.
At this time, the other constituents have no known exposure limits.

1477-55-0 m-phenylenebis(methylamine)	
REL	Ceiling limit value: 0.1 mg/m³ Skin
TLV	Ceiling limit value: 0.1 mg/m³ Skin

· ***Additional information:*** The lists that were valid during the creation of this SDS were used as basis.

· ***Exposure controls:***
· ***Personal protective equipment:***
· ***General protective and hygienic measures:***
The usual precautionary measures for handling chemicals should be followed.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing and wash before reuse.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
· ***Breathing equipment:*** Not required.
· ***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.
Select glove material based on penetration times, rates of diffusion and 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 cannot 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 determined and observed by the manufacturer of the protective gloves.
· ***Eye protection:***

Tightly sealed goggles

Slash proof without any vent holes are recommended.

9 Physical and Chemical Properties

· ***Information on basic physical and chemical properties***
· ***General Information***
· ***Appearance:***
Form: Liquid

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Color:	Yellow to light amber
· **Odor:**	Amine-like
· **Odor threshold:**	Not determined.
· **pH-value:**	Not determined.
· **Change in condition**	
Melting point/Melting range:	Not determined.
Boiling point/Boiling range:	135 °C (275 °F)
· **Flash point:**	92 °C (198 °F)
· **Flammability (solid, gaseous):**	Not applicable.
· **Ignition temperature:**	240 °C (464 °F)
· **Decomposition temperature:**	Not determined.
· **Auto igniting:**	Product is not self-igniting.
· **Danger of explosion:**	Not determined.
· **Explosion limits:**	
Lower:	0.7 Vol %
Upper:	10.5 Vol %
· **Vapor pressure @ 20 °C (68 °F):**	0.1 hPa
· **Density @ 20 °C (68 °F):**	0.95 g/cm³ (7.928 lbs/gal)
· **Relative density:**	Not determined.
· **Vapor density:**	Not determined.
· **Evaporation rate:**	Not determined.
· **Solubility in / Miscibility with:**	
Water:	Not miscible or difficult to mix.
· **Partition coefficient (n-octanol/water):**	Not determined.
· **Viscosity:**	
Dynamic:	Not determined.
Kinematic:	Not determined.
· **Solvent content:**	
Organic solvents:	0.0 %
Solids content:	5.0 %
· **Other information:**	No further relevant information available.

10 Stability and Reactivity

· **Reactivity:** No further relevant information available.
· **Chemical stability:** Stable under normal conditions.
· **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:**
Strong oxidizing agents.
Strong acids, strong bases
· **Hazardous decomposition products:** Carbon dioxide, carbon monoxide and nitrogen oxides.

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11 Toxicological Information

· **Information on toxicological effects:**
· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**		
140-31-8 2-piperazin-1-ylethylamine		
Oral	LD50	2140 mg/kg (rat)
Dermal	LD50	880 mg/kg (rabbit)
Inhalative	LC50/4 h	100 mg/l (Trout)
9046-10-0 Poly(propylene glycol) bis(2-aminopropyl ether)		
Oral	LD50	2885.3 mg/kg (rat)
Dermal	LD50	2980 mg/kg (rabbit) Skin - rabbit - Corrosive, category 1C - where responses occur after exposures between 1 hour and 4 hours and observations up to 14 days. - OECD Test Guideline 404.
Inhalative	LC50/4 h	>0.74 mg/l (rat) (8 hours)
	LC50/96 hours	772.15 mg/l (Trout) (OECD Test Guideline 203)
1477-55-0 m-phenylenebis(methylamine)		
Oral	LD50	1040 mg/kg (rat)
Inhalative	LC50/4 h	2.4 mg/l (rat)
109-55-7 3-aminopropyldimethylamine		
Oral	LD50	1870 mg/kg (rat)
Dermal	LD50	490 mg/kg (rabbit)

· **Primary irritant effect:**
· **On the skin:**
Strong caustic effect on skin and mucous membranes.
May cause an allergic skin reaction.
· **On the eye:**
Corrosive effect.
Causes serious eye irritation.
· **Sensitization:** Sensitization possible through skin contact.
· **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Harmful
Corrosive
Irritant
Swallowing will lead to a corrosive effect on mouth and throat and to the danger of perforation of esophagus and stomach.

· **Carcinogenic categories:**

· **IARC (International Agency for Research on Cancer):**
None of the ingredients are listed.

· **NTP (National Toxicology Program):**
None of the ingredients are listed.

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· **OSHA-Ca (Occupational Safety & Health Administration):**
None of the ingredients are listed.

12 Ecological Information

· **Toxicity:**
· **Aquatic toxicity:**
Avoid release into the environment. Runoff from fire control or dilution water may cause pollution.

140-31-8 2-piperazin-1-ylethylamine	
EC50	32 mg/l (daphnia)
9046-10-0 Poly(propylene glycol) bis(2-aminopropyl ether)	
EC50	>15 mg/l (Trout) (OECD Test Guideline 203) 80 mg/l (daphnia) (OECD Test Guideline 202)

· **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.
· **Ecotoxical effects:**
· **Remark:** Toxic for fish
· **Additional ecological information:**
· **General notes:**
Water hazard class 3 (Self-assessment): extremely hazardous for water
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Must not reach bodies of water or drainage ditch undiluted or unneutralized.
Danger to drinking water if even extremely small quantities leak into the ground.
Poisonous for fish and plankton in water bodies.
Toxic for aquatic organisms
· **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:**
Do not allow product to reach sewage system.
It is the generators responsibility to determine if the waste meets applicable definitions of hazardous waste. State and local regulations may differ from federal disposal regulations. Dispose of waste material according to local, state and federal environmental regulations.

· **Uncleaned packagings**
· **Recommendation:** Disposal must be made according to official regulations.

14 Transport Information

· **UN-Number:**
· **DOT, ADR, IMDG, IATA** UN1760
· **UN proper shipping name:**
· **DOT** Corrosive liquids, n.o.s. (4-nonylphenol, branched)

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· **ADR** UN1760 Corrosive liquids, n.o.s. (4-nonylphenol, branched), ENVIRONMENTALLY HAZARDOUS
· **IMDG** CORROSIVE LIQUID, N.O.S. (4-nonylphenol, branched), MARINE POLLUTANT
· **IATA** CORROSIVE LIQUID, N.O.S. (4-nonylphenol, branched)
· **Transport hazard class(es):**

· **DOT**

· **Class:** 8 Corrosive substances
· **Label:** 8

· **ADR, IMDG**

· **Class:** 8 Corrosive substances
· **Label:** 8

· **IATA**

· **Class:** 8 Corrosive substances
· **Label:** 8
· **Packing group:**
· **DOT, ADR, IMDG, IATA** II
· **Environmental hazards:** Product contains environmentally hazardous substances: 4-nonylphenol, branched
· **Special marking (ADR):** Symbol (fish and tree)
· **Special precautions for user:** Warning: Corrosive substances
· **EMS Number:** F-A,S-B
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:** Not applicable.
· **Transport/Additional information:**

· **DOT**
· **Remarks:** Special marking with the symbol (fish and tree).

· **ADR**
· **Excepted quantities (EQ):** Code: E2
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml
· **UN "Model Regulation":** UN 1760 CORROSIVE LIQUIDS, N.O.S. (4-NONYLPHENOL, BRANCHED), 8, II, ENVIRONMENTALLY HAZARDOUS

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15 Regulatory Information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture:**
· **SARA (Superfund Amendments and Reauthorization):**

· **Section 355 (extremely hazardous substances):**
None of the ingredients are listed.

· **Section 313 (Specific toxic chemical listings):**

84852-15-3	4-nonylphenol, branched

· **TSCA (Toxic Substances Control Act):**
All ingredients are listed or exempt from listing.

· **California Proposition 65:**

· **Chemicals known to cause cancer:**
None of the ingredients are listed.

· **Chemicals known to cause reproductive toxicity for females:**
None of the ingredients are listed.

· **Chemicals known to cause reproductive toxicity for males:**
None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity:**
None of the ingredients are listed.

· **New Jersey Right-to-Know List:**

140-31-8	2-piperazin-1-ylethylamine
1477-55-0	m-phenylenebis(methylamine)
109-55-7	3-aminopropyldimethylamine

· **New Jersey Special Hazardous Substance List:**

140-31-8	2-piperazin-1-ylethylamine	CO, F2
109-55-7	3-aminopropyldimethylamine	F3

· **Pennsylvania Right-to-Know List:**

140-31-8	2-piperazin-1-ylethylamine
1477-55-0	m-phenylenebis(methylamine)
109-55-7	3-aminopropyldimethylamine

· **Pennsylvania Special Hazardous Substance List:**
None of the ingredients are listed.

· **Carcinogenic categories:**

· **EPA (Environmental Protection Agency):**
None of the ingredients are listed.

· **TLV (Threshold Limit Value established by ACGIH):**
None of the ingredients are listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health):**
None of the ingredients are listed.

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

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· **Hazard pictograms:**

GHS05 GHS07 GHS08 GHS09

· **Signal word:** Danger

· **Hazard-determining components of labeling:**
4-nonylphenol, branched
2-piperazin-1-ylethylamine
Proprietery
Poly(propylene glycol) bis(2-aminopropyl ether)

· **Hazard statements:**
H227 Combustible liquid.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H361 Suspected of damaging fertility or the unborn child.
H401 Toxic to aquatic life.
H411 Toxic to aquatic life with long lasting effects.

· **Precautionary statements:**

P210	Keep away from flames and hot surfaces. – No smoking.
P260	Do not breathe dusts or mists.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P280	Wear protective gloves / eye protection / face protection.
P280	Wear protective gloves.
P280	Wear eye protection / face protection.
P273	Avoid release to the environment.
P264	Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P272	Contaminated work clothing must not be allowed out of the workplace.
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P303+P361+P353	If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P305+P351+P338	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER/doctor.
P301+P312	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P321	Specific treatment (see supplementary first aid instructions on this Safety Data Sheet).
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P363	Wash contaminated clothing before reuse.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P301+P330+P331	If swallowed: Rinse mouth. Do NOT induce vomiting.
P370+P378	In case of fire: Use for extinction: CO2, powder or water spray.
P302+P352	IF ON SKIN: Wash with plenty of water.
P391	Collect spillage.
P405	Store locked up.
P403+P235	Store in a well-ventilated place. Keep cool.

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P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· ***National regulations:***

The product is subject to be classified according with the latest version of the regulations on hazardous substances.

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

16 Other Information

The information and recommendations in this safety data sheet are, to the best of our knowledge, accurate as of the date of issue. Nothing herein shall be deemed to create warranty, expressed or implied, and shall not establish a legally valid contractual relationship. It is the responsibility of the user to determine applicability of this information and the suitability of the material or product for any particular purpose.

· ***Date of preparation / last revision:*** 08/01/2017

· ***Abbreviations and acronyms:***

ADR: The European Agreement concerning the International Carriage of Dangerous Goods by Road
ADN: The European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
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)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
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
Flam. Liq. 3: Flammable liquids – Category 3
Flam. Liq. 4: Flammable liquids – Category 4
Acute Tox. 4: Acute toxicity – Category 4
Skin Corr. 1A: Skin corrosion/irritation – Category 1A
Skin Corr. 1B: Skin corrosion/irritation – Category 1B
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
Skin Sens. 1: Skin sensitisation – Category 1
Repr. 2: Reproductive toxicity – Category 2
Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
Aquatic Acute 2: Hazardous to the aquatic environment - acute aquatic hazard – Category 2
Aquatic Acute 3: Hazardous to the aquatic environment - acute aquatic hazard – Category 3
Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1
Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2
Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

· **** Data compared to the previous version altered.***