

1 Identification

- **Product identifier**
 - *Product number* LNB6AA5
 - *Trade name:* **HARDENER**
 - *Application of the substance / the mixture* For professional use
- **Details of the supplier of the safety data sheet**
 - *Manufacturer/Supplier:*
IVM Chemicals srl
Viale della Stazione 3 - 27020 Parona (PV) Italy tel +39 038425441
 - *Information department:*
Environmental Health and safety office
hseoffice@ivmchemicals.com
 - *Emergency telephone number:*
ChemTel Expert Assistance Hotline/SDS Fax Access by dialing 1-800-255-3924 or for International +1-813-248-0585.

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Flam. Liq. 2 H225 Highly flammable liquid and vapor.



GHS08 Health hazard

Carc. 2 H351 Suspected of causing cancer.

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.



GHS07

Eye Irrit. 2A H319 Causes serious eye irritation.

Skin Sens. 1 H317 May cause an allergic skin reaction.

STOT SE 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:*

Homopolymers of HDI

isobutyl acetate

xylene

ethyl acetate

hexamethylene diisocyanate

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· **Hazard statements**

H225 Highly flammable liquid and vapor.
H319 Causes serious eye irritation.
H317 May cause an allergic skin reaction.
H351 Suspected of causing cancer.
H336 May cause drowsiness or dizziness.
H373 May cause damage to organs through prolonged or repeated exposure.

· **Precautionary statements**

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P241 Use explosion-proof electrical/ventilating/lighting/equipment.
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.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 2
Fire = 3
Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = 2
Fire = 3
Reactivity = 0

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Description:** Mixture: consisting of the following components.

· **Dangerous components:**

| | | |
|------------|--|-----------|
| 110-19-0 | isobutyl acetate | 50-74.99% |
| | ⚠ Flam. Liq. 2, H225 ⚠ STOT SE 3, H336 | |
| 28182-81-2 | Homopolymers of HDI | 15-19.99% |
| | ⚠ Acute Tox. 4, H332; Skin Sens. 1, H317; STOT SE 3, H335 | |
| 141-78-6 | ethyl acetate | 12.5-15% |
| | ⚠ Flam. Liq. 2, H225 ⚠ Eye Irrit. 2A, H319; STOT SE 3, H336 | |
| 78-93-3 | butanone | 5-9.99% |
| | ⚠ Flam. Liq. 2, H225 ⚠ Eye Irrit. 2A, H319; STOT SE 3, H336 | |

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| | | |
|--------------------|--|-----------|
| (Contd. of page 2) | | |
| 108-65-6 | 2-methoxy-1-methylethyl acetate <div> <div>Flam. Liq. 3, H226</div> <div>STOT SE 3, H336</div> </div> | 2.5-4.99% |
| 1330-20-7 | xylene <div> <div>Flam. Liq. 3, H226</div> <div>STOT RE 2, H373; Asp. Tox. 1, H304</div> <div>Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2A, H319; STOT SE 3, H335</div> <div>Aquatic Chronic 3, H412</div> </div> | 1-2.49% |
| 100-41-4 | ethylbenzene <div> <div>Flam. Liq. 2, H225</div> <div>Carc. 2, H351; STOT RE 2, H373; Asp. Tox. 1, H304</div> <div>Acute Tox. 4, H332</div> </div> | 0.5-1% |
| 822-06-0 | hexamethylene diisocyanate <div> <div>Acute Tox. 1, H330</div> <div>Resp. Sens. 1, H334</div> <div>Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317; STOT SE 3, H335</div> </div> | <0.1% |

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.

personal protective equipment for first aid responders is recommended. (please see section 8)

· 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. If symptoms persist, consult a doctor.

· After swallowing: Do not induce vomiting; immediately call for medical help.

· Information for doctor:

· Most important symptoms and effects, both acute and delayed

For symptoms and effects caused by substances, refer to Section 11.

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: Alcohol resistant foam, CO, powder, water spray/mist.

· For safety reasons unsuitable extinguishing agents:

Do not use a jet water stream as it may scatter and spread fire.

· Special hazards arising from the substance or mixture

During heating or in case of fire poisonous gases are produced.

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· **Advice for firefighters**

Cool by spraying with water the containers to prevent product decomposition and the development of substances potentially hazardous for health and also, in the case of closed containers exposed to flames to prevent explosions.

· **Protective equipment:**

Hardhat with visor, fireproof clothing, suitable gloves and if necessary 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.

Ensure adequate ventilation

Keep away from ignition sources

· **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 Section 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:**

| | | |
|------------|---------------------------------|-----------|
| 110-19-0 | isobutyl acetate | 450 ppm |
| 28182-81-2 | Homopolymers of HDI | 7.8 mg/m |
| 141-78-6 | ethyl acetate | 1,200 ppm |
| 78-93-3 | butanone | 200 ppm |
| 108-65-6 | 2-methoxy-1-methylethyl acetate | 50 ppm |
| 1330-20-7 | xylene | 130 ppm |
| 100-41-4 | ethylbenzene | 33 ppm |

· **PAC-2:**

| | | |
|------------|---------------------------------|-----------|
| 110-19-0 | isobutyl acetate | 1300* ppm |
| 28182-81-2 | Homopolymers of HDI | 86 mg/m |
| 141-78-6 | ethyl acetate | 1,700 ppm |
| 78-93-3 | butanone | 2700* ppm |
| 108-65-6 | 2-methoxy-1-methylethyl acetate | 1,000 ppm |
| 1330-20-7 | xylene | 920* ppm |
| 100-41-4 | ethylbenzene | 1100* ppm |

· **PAC-3:**

| | | |
|------------|---------------------------------|-------------|
| 110-19-0 | isobutyl acetate | 7500** ppm |
| 28182-81-2 | Homopolymers of HDI | 510 mg/m |
| 141-78-6 | ethyl acetate | 10000** ppm |
| 78-93-3 | butanone | 4000* ppm |
| 108-65-6 | 2-methoxy-1-methylethyl acetate | 5000* ppm |
| 1330-20-7 | xylene | 2500* ppm |

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100-41-4 ethylbenzene

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1800* ppm

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.
Protect against electrostatic charges.
Keep respiratory protective device available.
Use explosion-proof apparatus / fittings and spark-proof tools.

· 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, well-ventilated area, away from heat and sources of ignition
Provide solvent resistant, sealed floor.
Observe the label precautions, the expiration date for the use, if not indicated, is from delivery date of goods.
In cases where there is no reported expiration date, it means that the product must be used within 8 months.

· 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) Those typical of the product and the instructions in the data sheet if required.

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.

141-78-6 ethyl acetate

| | |
|-----|--------------------------------------|
| PEL | Long-term value: 1400 mg/m , 400 ppm |
| REL | Long-term value: 1400 mg/m , 400 ppm |
| TLV | Long-term value: 1440 mg/m , 400 ppm |

78-93-3 butanone

| | |
|-----|--|
| PEL | Long-term value: 590 mg/m , 200 ppm |
| REL | Short-term value: 885 mg/m , 300 ppm Long-term value: 590 mg/m , 200 ppm |
| TLV | Short-term value: 885 mg/m , 300 ppm Long-term value: 590 mg/m , 200 ppm BEI |

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100-41-4 ethylbenzene

| | |
|-----|---|
| PEL | Long-term value: 435 mg/m , 100 ppm |
| REL | Short-term value: 545 mg/m , 125 ppm Long-term value: 435 mg/m , 100 ppm |
| TLV | Long-term value: 87 mg/m , 20 ppm BEI |

Ingredients with biological limit values:

78-93-3 butanone

| | |
|-----|---|
| BEI | 2 mg/L Medium: urine Time: end of shift Parameter: MEK |
|-----|---|

1330-20-7 xylene

| | |
|-----|--|
| BEI | 1.5 g/g creatinine Medium: urine Time: end of shift Parameter: Methylhippuric acids |
|-----|--|

100-41-4 ethylbenzene

| | |
|-----|---|
| BEI | 0.7 g/g creatinine Medium: urine Time: end of shift at end of workweek Parameter: Sum of mandelic acid and phenylglyoxylic acid (nonspecific, semi-quantitative) |
| - | Medium: end-exhaled air Time: not critical Parameter: Ethyl benzene (semi-quantitative) |

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.
- Avoid contact with the eyes and skin.

Breathing equipment:

- 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

Due to missing tests no recommendation to the glove material can be given for the product. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

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

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

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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:**

Fluid

· **Color:**

According to product specification

· **Odor:**

Characteristic

· **Odor threshold:**

Not determined.

· **pH-value:**

Not determined.

· **Change in condition**

· **Melting point/Melting range:**

Undetermined.

· **Boiling point/Boiling range:**

77 °C (170.6 °F)

· **Flash point:**

-4 °C (24.8 °F)

· **Flammability (solid, gaseous):**

Not applicable.

· **Ignition temperature:**

315 °C (599 °F)

· **Decomposition temperature:**

Not determined.

· **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:**

1.1 Vol %

· **Upper:**

11.5 Vol %

· **Vapor pressure at 20 °C (68 °F):**

105 hPa (78.8 mm Hg)

· **Density (+/- 0,03) at 20 °C (68 °F):**

0.909 g/cm (7.586 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 at 20 °C (68 °F):**

40 s (ISO 4 mm)

· **Oxidising properties:**

N.A.

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| | | |
|---|------------------------------------|---------|
| · Solvent content: | | |
| · VOC content: | 82.77 % 752.4 g/l / 6.28 lb/gal | |
| · Solids content: 17.2 % | | |
| · Other information (HAPS) | | |
| 1330-20-7 | xylene | 1-2.49% |
| 100-41-4 | ethylbenzene | 0.5-1% |
| 822-06-0 | hexamethylene diisocyanate | <0.1% |
| · Other information No further relevant information available. | | |

10 Stability and reactivity

- **Reactivity** typical of the product as indicated in the data sheet
 - **Chemical stability** The product is stable in normal conditions of storage and use recommended
 - **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
- **Possibility of hazardous reactions**
Reacts with oxidizing agents.
Vapours may form explosive mixtures with air
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:**
in case of possible formation of combustion:
Carbon monoxide and carbon dioxide

11 Toxicological information

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

| | | |
|---|----------|-----------------------|
| · LD/LC50 values that are relevant for classification: | | |
| 110-19-0 isobutyl acetate | | |
| Oral | LD50 | 13,400 mg/kg (mouse) |
| Dermal | LD50 | 17,401 mg/kg (rabbit) |
| Inhalative | LC50/4 h | 31 mg/l (mouse) |
| 28182-81-2 Homopolymers of HDI | | |
| Oral | LD50 | 2,501 mg/kg (mouse) |
| Dermal | LD50 | 2,001 mg/kg (rabbit) |
| 141-78-6 ethyl acetate | | |
| Oral | LD50 | 4,934 mg/kg (rabbit) |
| Dermal | LD50 | 20,001 mg/kg (rabbit) |
| Inhalative | LC50/4 h | 1,600 mg/l (mouse) |
| | LC0 | 22.6 ppm (mouse) |
| 78-93-3 butanone | | |
| Oral | LD50 | 2,001 mg/kg (mouse) |
| Dermal | LD50 | 5,001 mg/kg (rabbit) |

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| | | |
|---|----------|-----------------------|
| Inhalative | LC50/4 h | 21 mg/l (mouse) |
| 108-65-6 2-methoxy-1-methylethyl acetate | | |
| Oral | LD50 | 8,532 mg/kg (mouse) |
| Dermal | LD50 | 5,001 mg/kg (rabbit) |
| Inhalative | LC50/4 h | 35.7 mg/l (mouse) |
| 1330-20-7 xylene | | |
| Oral | LD50. | 3,523 mg/kg (mouse) |
| Dermal | LD50. | 12,126 mg/kg (rabbit) |
| Inhalative | LC50/4h. | 27.571 mg/l (mouse) |
| 100-41-4 ethylbenzene | | |
| Oral | LD50 | 3,500 mg/kg (mouse) |
| Dermal | LD50 | 15,486 mg/kg (rabbit) |
| Inhalative | LC50/4 h | 17.2 mg/l (mouse) |
| 822-06-0 hexamethylene diisocyanate | | |
| Oral | LD50 | 738 mg/kg (mouse) |
| Dermal | LD50 | 7,001 mg/kg (mouse) |
| Inhalative | LC50/4 h | 0.124 mg/l (mouse) |

· **Primary irritant effect:**

- *on the skin:* No irritant effect.
- *on the eye:* Irritating effect.

· **Sensitization:** Sensitization possible through skin contact.

· **Additional toxicological information:**

Irritant

Causes serious eye irritation.

May cause an allergic skin reaction.

May cause drowsiness or dizziness.

Contains isocyanates. May produce an allergic reaction.

· **Carcinogenic categories**

Ethylbenzene

From IARC MONOGRAPHS VOLUME 77/2000

Human carcinogenicity data

Two studies of workers potentially exposed to ethylbenzene in a production plant and a styrene polymerization plant were available. In the first study, no excess of cancer incidence was found but the description of methods was insufficient to allow proper evaluation of this finding. In the second study, no cancer mortality excess was observed during the follow-up of 15 years.

Evaluation

There is inadequate evidence in humans for the carcinogenicity of ethylbenzene. There is sufficient evidence in experimental animals for the carcinogenicity of ethylbenzene.

· **IARC (International Agency for Research on Cancer - Cl. 1 and 2)**

100-41-4 ethylbenzene

2B

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

· **Sensitisation**

Monomers / polymers isocyanate

Particular characteristics / effects; prolonged exposure may irritate the eyes, nose, throat and respiratory tract.

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Isocyanate exposure may result in the delayed appearance of respiratory disorders, cough or asthma. Sensitive individuals may show exposure symptoms to isocyanates below workplace TLV values. Prolonged skin contact may result cause irritation and dehydration.

12 Ecological information

· Toxicity

· Aquatic toxicity:

110-19-0 isobutyl acetate

| | |
|------------|-------------------------|
| EC50 | 370 mg/l (algae) (72 h) |
| | 25 mg/l (daphnia) |
| LC50 (96h) | 17 mg/l (Fish) |

28182-81-2 Homopolymers of HDI

| | |
|------------|---------------------------|
| EC50 | 1,001 mg/l (algae) (72 h) |
| | 127 mg/l (daphnia) (48 h) |
| LC50 (96h) | 100 mg/l (Fish) |

141-78-6 ethyl acetate

| | |
|------------|---------------------------|
| EC50 | 165 mg/l (daphnia) (48 h) |
| LC50 (96h) | 230 mg/l (Fish) |

78-93-3 butanone

| | |
|------------|---------------------------|
| EC50 | 2,029 mg/l (algae) (96 h) |
| | 308 mg/l (daphnia) (48 h) |
| LC50 (96h) | 2,993 mg/l (Fish) |

108-65-6 2-methoxy-1-methylethyl acetate

| | |
|------------|---------------------------|
| EC50 | 1,001 mg/l (algae) (72 h) |
| | 501 mg/l (daphnia) (48 h) |
| LC50 (96h) | 134 mg/l (Fish) |

1330-20-7 xylene

| | |
|------------|------------------------|
| EC50 | 2.2 mg/l (algae) (72h) |
| LC50 48h | 1 mg/l (daphnia) |
| LC50 (96h) | 2.6 mg/l (Fish) |

100-41-4 ethylbenzene

| | |
|------------|---------------------------|
| EC50 | 438 mg/l (algae) (72h) |
| | 1.8 mg/l (daphnia) (48 h) |
| LC50 (96h) | 12.1 mg/l (Fish) |

822-06-0 hexamethylene diisocyanate

| | |
|------------|----------------------------|
| EC50 | 77.5 mg/l (algae) (72 h) |
| | 89.2 mg/l (daphnia) (48 h) |
| LC50 (96h) | 82.9 mg/l (Fish) |

· **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.

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· **Additional ecological information:**

· **General notes:**

Water hazard class 1 (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

· **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.

Hand over to hazardous waste disposers.

Dispose of contents and container in accordance with local state and federal regulations.

· **Uncleaned packagings:**

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

14 Transport information

· **UN-Number**

· **DOT**

NA1263

· **IMDG, IATA**

UN1263

· **UN proper shipping name**

· **DOT**

Paint

· **IMDG, IATA**

PAINT

· **Transport hazard class(es)**

· **DOT**



· **Class**

3 Flammable liquids

· **Label**

3

· **Class**

3 Flammable liquids

· **Label**

3

· **IMDG, IATA**



· **Class**

3 Flammable liquids

· **Label**

3

· **Packing group**

· **DOT, IMDG, IATA**

II

· **Environmental hazards:**

· **Marine pollutant:**

No

· **Special precautions for user**

Warning: Flammable liquids

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| | |
|--|---|
| · Danger code (Kemler): | 33 |
| · EMS Number: | F-E, S-E |
| · Stowage Category | B |
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| · Transport/Additional information: | |
| · IMDG | |
| · Limited quantities (LQ) | 5L |
| · 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 1263 PAINT, 3, II |

15 Regulatory information

· Safety, health and environmental regulations/legislation specific for the substance or mixture

Requirements of Federal Register

· SARA

| |
|--|
| · Section 355 (extremely hazardous substances): |
| None of the ingredients is listed. |

| · Section 313 (Specific toxic chemical listings) : | | |
|--|----------------------------|---------|
| 1330-20-7 | xylene | 1-2.49% |
| 100-41-4 | ethylbenzene | 0.5-1% |
| 822-06-0 | hexamethylene diisocyanate | <0.1% |

| |
|---|
| · TSCA (Toxic Substances Control Act): |
| All components have the value ACTIVE. |

| |
|-------------------------------------|
| · Hazardous Air Pollutants |
| 1330-20-7 xylene |
| 100-41-4 ethylbenzene |
| 822-06-0 hexamethylene diisocyanate |

· Proposition 65

| | | | |
|---|--------------|---|--------|
| · <i>Chemicals known to cause cancer:</i> | | | |
| 100-41-4 | ethylbenzene | * | 0.5-1% |

| | | |
|---|-------------------------|--------|
| · Chemicals known to cause reproductive toxicity for females: | | |
| 70657-70-4 | 2-methoxypropyl acetate | <0.01% |

| |
|--|
| · Chemicals known to cause reproductive toxicity for males: |
| None of the ingredients is listed. |

| |
|---|
| · Chemicals known to cause developmental toxicity: |
| None of the ingredients is listed. |

· Carcinogenic categories

| | | | |
|--|----------|---|---------|
| · <i>EPA (Environmental Protection Agency)</i> | | | |
| 78-93-3 | butanone | / | 5-9.99% |

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| | | | |
|-----------|--------------|---|---------|
| 1330-20-7 | xylene | I | 1-2.49% |
| 100-41-4 | ethylbenzene | D | 0.5-1% |

· **TLV (Threshold Limit Value established by ACGIH)**

| | | |
|-----------|--------------|----|
| 1330-20-7 | xylene | A4 |
| 100-41-4 | ethylbenzene | A3 |

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

None of the ingredients is listed.

· **National regulations:**

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

· **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:** IVM Chemicals Srl

· **Contact:** See emergency phone

· **Date of preparation / last revision** 08/28/2019 / 39

· **Abbreviations and acronyms:**

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)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

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

Flam. Liq. 2: Flammable liquids . Category 2

Flam. Liq. 3: Flammable liquids . Category 3

Acute Tox. 1: Acute toxicity . Category 1

Acute Tox. 4: Acute toxicity . Category 4

Skin Irrit. 2: Skin corrosion/irritation . Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation . Category 2A

Resp. Sens. 1: Respiratory sensitisation . Category 1

Skin Sens. 1: Skin sensitisation . Category 1

Carc. 2: Carcinogenicity . Category 2

STOT SE 3: Specific target organ toxicity (single exposure) . Category 3

STOT RE 2: Specific target organ toxicity (repeated exposure) . Category 2

Asp. Tox. 1: Aspiration hazard . Category 1

Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard . Category 3

· **Sources**

REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL and following amendments

Agency ECHA web site

INRS Fiche Toxicologique

IARC International agency for research on cancer

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