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

### 1.1. product identifiers

Article No. (manufacturer/supplier): Hardener LMN  
Identification of the substance or mixture

### 1.2. Relevant identified uses of the substance or mixture and uses advised against Relevant identified uses

Printing aid

### 1.3. Details of the supplier of the safety data sheet

#### supplier (manufacturer/importer/downstream user/distributor)

ITW Trans Tech  
475 N. Gary Avenue  
Carol Stream, IL 60188

Telephone: 630-752-4000  
www.itwtranstech.com

### 1.4. Emergency telephone number

+1 (352) 323-3500

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

#### Classification according to Regulation (EC) No 1272/2008 [CLP]

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

Flam. Liq. 3 / H226

Flammable liquids

Flammable liquid and vapour.

Eye Irrit. 2 / H319

Serious eye damage/eye irritation

Causes serious eye irritation.

Skin Sens. 1 / H317

Respiratory or skin sensitisation

May cause an allergic skin reaction.

STOT SE 3 / H336

Specific target organ toxicity (single exposure)

May cause drowsiness or dizziness.

### 2.2. Label elements

#### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

#### Hazard pictograms



Warning

#### Hazard statements

H226

Flammable liquid and vapour.

H319

Causes serious eye irritation.

H317

May cause an allergic skin reaction.

H336

May cause drowsiness or dizziness.

#### Precautionary statements

P210

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P280

Wear protective gloves and eye/face protection.

P370 + P378

In case of fire, use sand, extinguishing powder or alcohol resistant foam.

P403 + P233

Store in a well-ventilated place. Keep container tightly closed.

#### contains:

aromatic polyisocyanate

n-butyl acetate

#### Supplemental Hazard information (EU)

EUH066

Repeated exposure may cause skin dryness or cracking.

EUH204

Contains isocyanates. May produce an allergic reaction.

### 2.3. Other hazards

## SECTION 3: Composition / information on ingredients

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## 3.2. Mixtures

### Product description / chemical characterization

**Description** Solvent containing resin solution

### Hazardous ingredients

### Classification according to Regulation (EC) No 1272/2008 [CLP]

EC No. CAS No. INDEX No.	REACH No. Chemical name classification: // Remark	Wt %
500-120-8 53317-61-6	aromatic polyisocyanate Eye Irrit. 2 H319 / Skin Sens. 1 H317	50 - 100
204-658-1 123-86-4 607-025-00-1	01-2119485493-29-XXXX n-butyl acetate Flam. Liq. 3 H226 / STOT SE 3 H336	25 - 50

### Additional information

Full text of classification: see section 16

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

#### General information

In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness give nothing by mouth, place in recovery position and seek medical advice.

#### In case of inhalation

Remove casualty to fresh air and keep warm and at rest. In case of irregular breathing or respiratory arrest provide artificial respiration.

#### Following skin contact

Take off immediately all contaminated clothing. After contact with skin, wash immediately with plenty of water and soap. Do not use solvents or thinners.

#### After eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical advice immediately.

#### After ingestion

If swallowed, rinse mouth with water (only if the person is conscious). Seek medical advice immediately. Keep victim calm. Do NOT induce vomiting.

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

In all cases of doubt, or when symptoms persist, seek medical advice.

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

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

#### Suitable extinguishing media:

alcohol resistant foam, carbon dioxide, Powder, spray mist, (water)

#### Extinguishing media which must not be used for safety reasons:

strong water jet

### 5.2. Special hazards arising from the substance or mixture

Inhaling hazardous decomposing products can cause serious health damage.

### 5.3. Advice for firefighters

Provide a conveniently located respiratory protective device. Cool closed containers that are near the source of the fire. Do not allow water used to extinguish fire to enter drains, ground or waterways.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Keep away from sources of ignition. Ventilate affected area. Do not breathe vapours. See protective measures under point 7 and 8.

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## 6.2. Environmental precautions

Do not allow to enter into surface water or drains. If the product contaminates lakes, rivers or sewages, inform competent authorities in accordance with local regulations.

## 6.3. Methods and material for containment and cleaning up

Isolate leaked material using non-flammable absorption agent (e.g. sand, earth, vermiculit, diatomaceous earth) and collect it for disposal in appropriate containers in accordance with the local regulations (see section 13). Use appropriate container to avoid environmental contamination. Fouled surfaces must be immediately cleaned with suitable solvents, Useable as such (flammable): water 45 vol.% ethanol or i-propanol 50 vol. % ammonia solution (density= 0.88) 5 vol.%

Alternative (non-flammable): sodium carbonate 5 vol.% water 95 vol.%.

Take up spilled residuals with the same agent and leave them for a few days in unclosed containers until there is no further reaction. Then, close the containers and dispose of them in accordance with the regulations for waste removal (refer to section 13).

## 6.4. Reference to other sections

Observe protective provisions (see section 7 and 8).

## SECTION 7: Handling and storage

People who suffer from skin sensitization problems, asthma, allergies, chronic or recurring respiratory illnesses should not be deployed in any process using this preparation.

### 7.1. Precautions for safe handling

#### Advices on safe handling

Avoid formation of flammable and explosive vapour concentrations in the air and exceeding the exposure limit values. Only use the material in places where open light, fire and other flammable sources can be kept away. Electrical equipment must be protected meeting the accepted standard. Product may become electrostatically charged. Provide earthing of containers, equipment, pumps and ventilation facilities. Anti-static clothing including shoes are recommended. Floors must be electrically conductive. Be careful when opening used containers (excess pressure). Precautionary measures should be taken in order to reduce strain from humidity or water: CO<sub>2</sub> is formed which may produce excess pressure in closed containers. Keep away from heat sources, sparks and open flames. Use only spark proof tools. Avoid contact with skin, eyes and clothes. Do not inhale dusts, particulates and spray mist when using this preparation. When using do not eat, drink or smoke. Personal protection equipment: refer to section 8. Do not empty containers with pressure - no pressure vessel! Always keep in containers that correspond to the material of the original container. Follow the legal protection and safety regulations.

#### Precautions against fire and explosion:

Vapours are heavier than air. Vapours form explosive mixtures with air.

### 7.2. Conditions for safe storage, including any incompatibilities

#### Requirements for storage rooms and vessels

Storage in accordance with the Ordinance on Industrial Safety and Health (BetrSiVO). Keep container tightly closed. Do not empty containers with pressure - no pressure vessel! Smoking is forbidden. Access only for authorised persons. Store carefully closed containers upright to prevent any leaks. Soils have to conform to the "Guidelines for avoidance of ignition hazards due to electrostatic charges (TRBS 2153)".

#### Hints on joint storage

Keep away from strongly acidic and alkaline materials as well as oxidizers. Keep away from amines, alcohols and water.

#### Further information on storage conditions

Take care of instructions on label. Store in a well-ventilated and dry room at temperatures between 5 °C and 35 °C. Protect from heat and direct sunlight. Keep container tightly closed. Remove all sources of ignition. Smoking is forbidden. Access only for authorised persons. Store carefully closed containers upright to prevent any leaks.

### 7.3. Specific end use(s)

Observe technical data sheet. Observe instructions for use.

## SECTION 8: Exposure controls/personal protection

People who suffer from skin sensitization problems, asthma, allergies, chronic or recurring respiratory illnesses should not be deployed in any process using this preparation.

People who spray this preparation should have regular pulmonary function tests.

### 8.1. Control parameters

#### Occupational exposure limit values

n-butyl acetate

INDEX No. 607-025-00-1 / EC No. 204-658-1 / CAS No. 123-86-4

TWA: 724 mg/m<sup>3</sup>; 150 ppm

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STEL: 966 mg/m<sup>3</sup>; 200 ppm

## Additional information

TWA : long-term occupational exposure limit value  
STEL : short-term occupational exposure limit value  
Ceiling : peak limitation

## 8.2. Exposure controls

Provide good ventilation. This can be achieved with local or room suction. For other tasks a suitable respiratory system must be used, if local and room suction is not sufficient for keeping aerosol and solvent vapour concentration below the exposure limit values. (refer to Personal protection equipment.)

### Occupational exposure controls

#### Respiratory protection

If concentration of solvents is beyond the occupational exposure limit values, approved and suitable respiratory protection must be used. Observe the wear time limits according GefStoffV in combination with the rules for using respiratory protection apparatus (BGR 190). Use only respiratory protection equipment with CE-symbol including four digit test number.

#### Hand protection

For prolonged or repeated handling the following glove material must be used: Butyl caoutchouc (butyl rubber)  
Thickness of the glove material > 0,4 mm ; Breakthrough time (maximum wearing time) > 480 min.  
Observe the instructions and details for use, storage, maintenance and replacement provided by the protective glove manufacturer. Penetration time of glove material depending on intensity and duration of exposure to skin. Recommended glove articles DIN EN 374  
Barrier creams can help protecting exposed skin areas. In no case should they be used after contact.

#### Eye protection

Wear closely fitting protective glasses in case of splashes.

#### Protective clothing

Wear antistatic clothing of natural fibers (cotton) or heat resistant synthetic fibers.

#### Protective measures

After contact clean skin thoroughly with water and soap or use appropriate cleanser.

### Environmental exposure controls

Do not allow to enter into surface water or drains. See chapter 7. No additional measures necessary.

## SECTION 9: Physical and chemical properties

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

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#### Appearance:

Physical state:	Liquid
Colour:	refer to label
Odour:	characteristic
Odour threshold:	not determined
pH at20 °C:	not applicable
Melting point/freezing point:	not determined
Initial boiling point and boiling range:	126 °C
Flash point:	27 °C
Evaporation rate:	not determined
Flammability (solid, gas):	
Burning time (s):	not applicable
Upper/lower flammability or explosive limits:	
Lower explosion limit:	1,2 Vol-%
Upper explosion limit:	7,5 Vol-%
Vapour pressure at20 °C:	15 mbar
Vapour density:	not determined

#### Relative density:

Density at20 °C: 1,12 g/cm<sup>3</sup>

#### Solubility(ies):

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<b>Water solubility (g/L) at 20 °C:</b>	<b>insoluble</b>
<b>Partition coefficient: n-octanol/water:</b>	<b>see section 12</b>
<b>Ignition temperature in °C</b>	<b>415 °C</b>
<b>Decomposition temperature:</b>	<b>not applicable</b>
<b>Viscosity at 20 °C:</b>	<b>&gt; 90 s 4 mm</b> Method: DIN 53211
<b>Explosive properties:</b>	<b>not applicable</b>
<b>Oxidising properties:</b>	<b>not applicable</b>
9.2. <b>Other information</b>	*
<b>Solid content (%):</b>	<b>65 Wt %</b>
<b>solvent content:</b>	
<b>Organic solvents:</b>	<b>35 Wt %</b>
<b>Water:</b>	<b>0 Wt %</b>
<b>Solvent separation test (%):</b>	<b>&lt; 3 Wt % (ADR/RID)</b>

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Reacts with water, forming carbon dioxide, producing bursting hazard in closed containers due to build-up of pressure.

### 10.2. Chemical stability

Stable when applying the recommended regulations for storage and handling. Further information on correct storage: refer to section 7.

### 10.3. Possibility of hazardous reactions

Keep away from strong acids, strong bases and strong oxidizing agents to avoid exothermic reactions. Reacts with water, forming carbon dioxide, producing bursting hazard in closed containers due to build-up of pressure.

### 10.4. Conditions to avoid

Stable when applying the recommended regulations for storage and handling. Further information on correct storage: refer to section 7. Hazardous decomposition byproducts may form with exposure to high temperatures.

### 10.5. Incompatible materials

Not applicable.

### 10.6. Hazardous decomposition products

Hazardous decomposition byproducts may form with exposure to high temperatures, e.g.: carbon dioxide, carbon monoxide, smoke, nitrogen oxides.

## SECTION 11: Toxicological information

Classification according to Regulation (EC) No 1272/2008 [CLP]

No data on preparation itself available.

### 11.1. Information on toxicological effects

#### Acute toxicity

Toxicological data are not available.

#### skin corrosion/irritation; Serious eye damage/eye irritation

Toxicological data are not available.

#### Respiratory or skin sensitisation

Toxicological data are not available.

#### Specific target organ toxicity

Toxicological data are not available.

#### Aspiration hazard

Toxicological data are not available.

#### Practical experience/human evidence

Other observations:

Inhaling of solvent components above the MWC-value can lead to health damage, e.g. irritation of the mucous membrane and respiratory organs, as well as damage to the liver, kidneys and the central nerve system. Indications for this are: headache, dizziness, fatigue, amyosthenia, drowsiness, in serious cases: unconsciousness. Solvents may cause some of the aforementioned effects through skin resorption. Repeated or prolonged contact with the preparation may cause removal of

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natural fat from the skin resulting in non-allergic contact dermatitis and/or absorption through skin. Splashing may cause eye irritation and reversible damage. Because of the isocyanate components' properties of this and with consideration of similar preparations the following applies: This mixture may cause acute irritation and/or sensitization of airways which lead to tightness in thorax, short-breath and asthmatic complaints. After sensitization even concentrations below the exposure limit values may cause asthma. Repeated inhaling can lead to permanent illness of the respiratory tract.

## Overall Assessment on CMR properties

The ingredients in this mixture do not meet the criteria for classification as CMR category 1A or 1B according to CLP.

## SECTION 12: Ecological information

### overall evaluation

Classification according to Regulation (EC) No 1272/2008 [CLP]

There is no information available on the preparation itself .

Do not allow to enter into surface water or drains.

#### 12.1. Toxicity

No information available.

#### Long-term Ecotoxicity

Toxicological data are not available.

#### 12.2. Persistence and degradability

Toxicological data are not available.

#### 12.3. Bioaccumulative potential

Toxicological data are not available.

#### Bioconcentration factor (BCF)

Toxicological data are not available.

#### 12.4. Mobility in soil

Toxicological data are not available.

#### 12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

#### 12.6. Other adverse effects

## SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

##### Appropriate disposal / Product Recommendation

Do not allow to enter into surface water or drains. Handle contaminated packages in the same way as the substance itself. This material and its container must be disposed of in a safe way. Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

##### List of proposed waste codes/waste designations in accordance with EWC

080312 waste ink containing dangerous substances

##### packaging

##### Recommendation

Non-contaminated packages may be recycled. Vessels not properly emptied are special waste.

## SECTION 14: Transport information

#### 14.1. UN number

UN 1866

#### 14.2. UN proper shipping name

Land transport (ADR/RID):

Resin solution

Sea transport (IMDG):

RESIN SOLUTION

Air transport (ICAO-TI / IATA-DGR):

Resin solution

#### 14.3. Transport hazard class(es)

Land transport (ADR/RID):

KEINE GÜTER DER KLASSE 3

in containers > 450 l: class 3, item 31c

Sea transport (IMDG)

3

for packages < 30 litres:

Transport in accordance with the provisions of paragraph 2.3.2.5 of the IMDG Cod e.

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- Air transport (ICAO-TI / IATA-DGR) 3
- 14.4. **Packing group** III
- 14.5. **Environmental hazards**  
Land transport (ADR/RID) not applicable  
Marine pollutant not applicable
- 14.6. **Special precautions for user**  
Transport always in closed, upright and safe containers. Make sure that persons transporting the product know what to do in case of an accident or leakage.  
Advices on safe handling: see parts 6 - 8
- Further information**
- Land transport (ADR/RID)**  
tunnel restriction code D/E
- Sea transport (IMDG)**  
EmS-No. F-E, S-E
- Air transport (ICAO-TI / IATA-DGR)**
- 14.7. **Transport in bulk according to Annex II of Marpol and the IBC Code**  
not applicable

## SECTION 15: Regulatory information

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

#### EU legislation

##### Directive 2010/75/EU on industrial emissions

VOC-value (in g/L): 392,245

#### National regulations

##### Restrictions of occupation

Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC).

##### Other regulations, restrictions and prohibition regulations

### 15.2. Chemical Safety Assessment

Chemical safety assessments for substances in this preparation were not carried out.

## SECTION 16: Other information

#### Full text of classification in section 3:

Eye Irrit. 2 / H319	Serious eye damage/eye irritation	Causes serious eye irritation.
Skin Sens. 1 / H317	Respiratory or skin sensitisation	May cause an allergic skin reaction.
Flam. Liq. 3 / H226	Flammable liquids	Flammable liquid and vapour.
STOT SE 3 / H336	Specific target organ toxicity (single exposure)	May cause drowsiness or dizziness.

#### Remark

n.a. = not applicable

#### Further information

Classification according to Regulation (EC) No 1272/2008 [CLP]

The information supplied on this safety data sheet complies with our current level of knowledge as well as with national and EU regulations. Without written approval, the product must not be used for purposes different from those mentioned in chapter 1. It is always the user's duty to take any necessary measures for meeting the requirements laid down by local rules and regulations. The details in this safety data sheet describe the safety requirements of our product and are not to be regarded as guaranteed attributes of the product.

\* Data changed compared with the previous version