

**Material Safety Data Sheet (91/155/EWG)**

according to amending law of Ordinance on Hazardous Substances (GefStoffV)

Revision Date 25.08.2005

**1. Chemical product and company identification****Product name:**

LiWa Inhib-CLEAN (Cleaning-liquid for removal of inhibition-layer)

**Manufacturer:**

Willmann + Pein GmbH

Schusterring 35, 25355 Barmstedt, Tel.: +49 (0) 41 23 / 92 28 0

**2. Composition/Information on ingredients****Cleaning-liquid based on isopropanol**

- CAS-Number: 67-63-0
- Description: Isopropylalcohol
- EINECS-Number: 200-651-7
- EG-Index-Number: 603-117-00-0

**3. Hazards Identification****Hazard-denotation:**

Xi

irritating



F

inflammable

**Special Hazard-indications for humans and environment:**

- R 11 inflammable
- R 36 irritation to the eyes
- R 67 Steams could cause sleepiness and obnubilation.

**4. First-Aid-Measures****General indications:**

Take off contaminated cloths immediately.

**in case of inhalation:**

supply fresh air, if necessary mouth to mouth resucitaion, heat. In case of continuing disorders contact physician. In case of insensibility storeing and transportaion ion recovery position. Apply to medical treatment.

**in case of skin-contact:**

Immediately rinse with water and soap and rinse thoroghly. In case of continuing irritation of skin contact a physician.

**in case of eye-contact:**

Rinse with plenty of water while eyes are opened. Contact a physician.

**in case of swallow:**

Avoid vomiting, immediately contact a physician.

**Advices of physicians:****Following symptoms could affect:**

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Breathlessness  
Headache  
qualmishness  
Gastrointestinal-disorders  
Obnubilation  
Vertigo  
Cough  
Insensibility

**Dangers**

danger of pulmonary oedema  
danger of breath-disorders.  
CNS-disorders  
Liver- and kidney-hurtful

**5. Fire-fighting measures****suitable extinguishing media:**

CO<sub>2</sub>, dry powder, oder water-spray. Combat large fires with waterspray-stream or with alcohol-resistant foam.

**For safety reasons not suitable extinguishing media:**

Full water-stream.

**Special hazard caused by the substance, it's burning products or accuring gases:**

At heating or in case of fire the building of toxic-gases is possible.

**Special protective equipment:**

Waer self-contained breathing apparatus. Waer protective clothing.

**6. Accidental realease measures****Personal precautions:**

Waer protective equipment. Keep exposed persons away. Apply respirator. Keep source of ignitions away.

**Environmental precautions:**

Avoid diffusion into sewerage and cellars. In case of diffusions into bodies of water or sewerage inform responsible authorities.

**Methods for cleaning/asorption:**

Pick up with liquid-binding material (for ex.: Sand, diatomaceous earth, universal-binding-material, saw-dust).

Dispose contaminated material as waste according to point 13.

Take care of sufficient aeration.

**7. Handling and storage****Handling****Indications for safety handling:**

Kepp container tightly closed.

Take care of sufficient aeration/offtake at working place. Take care of sufficient ambient-aeration also at underfoot-areas (steams are heavier than air). Avoid aerosol-building.

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**Indications for fire- and explosion-prevention:**

Keep source of ignitions away - do not smoke.  
Take measures against electrostatic charge.  
Do only use in explosion-safety areas.

**Storing****Demands to stockrooms and containers:**

Store at a cool place. Arrange lyophobic and leak-proofed floor.  
Use proper material for containers and piping: stainless-steel.  
Unsuitable container-material: aluminium

**Indication for combined-storage:**

Store apart of metals.  
Store apart of oxidants.  
Do not store together with alkali (leachate).

**Further details for storage-conditions:**

Protect against heat and direct insolation.  
Store cool. Heating causes pressure-increase and danger of burst.  
Protect against humidity and water. Product is hygroscopic.

**Classification:**

3A flammable materials (flashpoint - 55°C)

**Classification according to industrial safety regulation (BetrSichV):**

inflammable

**8. Exposure controls/personal protection****Additional advice for composition of technical constructions:**

No further details, see point 7.

<b>Constituent parts with working-place oriented, to be controlled limit values</b>	
<b>67-63-0 Isopropanol</b>	
<b>MAK (maximal working-place concentration)</b>	<b>500mg/m<sup>3</sup>, 200ml/m<sup>3</sup> Y; DFG</b>

**8. Exposure controls/personal protection (cont.)****Additional advice:**

At preparation valid lists are based.

**personal protective:****general protection and hygienic measures:**

Wash hands before pauses and after work.  
Take off dirty, moisted clothes immediately.  
Do not inhale gases/steams/aerosol.  
Avoid contact with eyes and skin.  
Do not eat and drink while working.

**Breathing protection:**

Use breathing protection while inadequate aeration.  
Filter A, brown, orig. gases and steams with boiling-point >65°C.

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**Hand protection:**

Protection gloves/solvent-resistant.

**Protection-glove material:**

for ex. Butyl rubber

for ex. Nitrile rubber

for ex. Fluor rubber (Viton)

The choice of a proper protection glove is not only dependant of the material but also of further attributes and different from manufacturer to manufacturer.

**Penetration-time of protection-glove-material:**

The exact penetration-time is to be known from the manufacturer and to be adhered.

**eye-protection:**

leakproofed goggles.

**Body-protection:**

solvent-resistant protection-wear.

**9. Physical and chemical properties****General details:**

<b>form:</b>	liquid
<b>colour:</b>	clear
<b>odour:</b>	alcoholic

**Change of condition:**

<b>melting-point/-area:</b>	-89,5°C
<b>boilingpoint/-area:</b>	82°C

**Flashpoint:**

20°C

**ignition point:**

425°C

**explosion-risk:**

The product is not explosive, but a building of explosion-risk steams/air-mixtures is possible.

**explosion-limit:**

<b>lower:</b>	2 Vol%
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<b>upper:</b>	12 Vol%
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<b>vapour-pressure at 20°C:</b>	48 hPa
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**9. Physical and chemical properties (cont.)**

<b>density at 20°C:</b>	0,785 g/cm <sup>3</sup>
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**Solubility/miscibility with**

<b>water at 20°C:</b>	1,000 g/l
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<b>pH-Value (-g/l):</b>	neutral
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<b>partition coefficient (n-Octanol/water) at 25°C:</b>	0,05 log POW
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**Viscosity:**

<b>dynamic at 20°C:</b>	2,43 mPas
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**10. Stability and reactivity****Conditions to avoid**

No decomposition if used conventional.

**hazardous reactions:**

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building of explosive gas-mixtures with air.

Reaction with amine.

Reaction with different metals.

Reaction with alkali (leachate).

Reaction with strong oxidants.

**hazardous decomposition-products:**

carbon monoxide and carbon dioxide.

inflammable gases/steams

**11. Toxicological information****Acute toxicity:**

<b>Categorization-relevant LD/LC50-values:</b>		
Oral	LD50	4570 - 5045 mg/kg (rat)
Dermal	LD50	12800 - 13400 mg/kg (rab)
Inhalativ	LC50/4 h	30 - 46,5 mg/l (rat)

**Primary irritation:****at skin:** irritation possible.**at eye:** irritating.**Sensitization:** no Sensitization affect known.**12. Ecological information****information of elimination (persistence and degradability):****further advices:** the product is bio-degradable.**ecotoxic effect:****aquatic toxicity:****Fish/LC50:** 9600 mg/l/96h (hogfish-minnow)**Daphnien/LC50:** 4600 mg/l/24h**further ecological advices:****CSB-value:** 97%**BSB5-value:** 60%**General advices:****12. Ecological information (cont.)**

water-hazardous-class 1 (list-classification): slightly water-dangerous

Do not attain into ground water, waterbodies or sewer-system.

**13. Disposal considerations****product:****reference:**

Must be kept to a special-treatment under observance of the official regulations.

<b>European Waste Catalogue</b>	
07 00 00	WASTES OF ORGANIC-CHEMICAL PROCESSES
07 01 00	Wastes of fabrication, preparation, distribution and use (HZVA) organic base-chemicals

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07 01 04	other organic solutions, washing-liquids and mother-liquors
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**Uncleaned packagings:****Recommendation:**

Dispose according to official rules.

15 01 10 Packagings which contain hazardous materials or which are contaminated with those.

**Recommended cleaning agents:**

Water, if needed with added cleaning agents.

**14. Transport Information/rules:**

No dangerous transport-good in terms of the transport-rules.

Keep away from food and stimulants.

**15. Regulatory information****marking according to EWG-rules:****Code letter and hazard-denotation:**

Xi irritating

F inflammable

**R-Phrases:**

11 inflammable.

36 irritating to eyes

67 steams could cause sleepiness and obnubilation.

**S-Phrases:**

2 Keep out of childrens reach.

7 Kepp container tightly closed.

16 Store away from ignition source - Do not smoke.

24/25 Avoid contact with eyes and skin.

26 If contacted with eyes rinse eyes immediately with plenty of water and contact a physician.

**national rules:****Classification according to industrial safety-rules (BetrSichV):** inflammable.**Technical direction air:**

class	contingent %
III	> 50

**Water-hazardous-class:**

WGK 1 (categorization per list): slightly water-dangerous.

(VwVwS - 17.05.99)

**16. Other information**

All above mentioned data are based on contemporary knowledge, but they don't represent an assurance for product attributes and dont cause a contracted legal relationship.

**Saftey data sheet certficing division:**

technical department

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