

harder.

Safety data sheet in accordance with 91/155/EEC

Trade name: Lignal HARDENER

Product no. SR 60150

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Date of printing: 18.12.2002

Position : 24.04.2001

1. Identification of the substance/preparation and company

Product details

Lignal Hardener SR 60150

Supplier details :

Lignal A/S

Hvidelvej 18-20

DK-7400 Herning

Telephone no. : +45 97 22 58 00 Telefax : +45 97 22 58 33

2. Composition/information on ingredients

Hazardous ingredients

- Designation of substance

CAS number Content Hazard symbols R phrases

- p-toluenesulphonic acid (containing a maximum of 5% H₂SO₄)
104-15-4 10-30% Xi R-36/37/38

- butan-1-ol

71-36-3 10-30% Xn R-10,22,37/38,41,67

- 2-methoxy-1-methylethyl acetate

108-65-6 10-30% Xi R-10,36

- n-butyl acetate

123-86-4 30-60% - R-10,66,67

3. Hazards identification

Hazard indication

Flammable

Special hints about risks for man and environment

Highly flammable.

Irritant to respiratory system and skin

Risk of serious damage to eyes.

Vapours may cause drowsiness and dizziness.

4. First aid measures

General information

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

Never give anything by mouth to an unconscious person.

after inhalation

Ensure supply of fresh air.

Keep patient warm and at rest.

If breathing is irregular or stopped, administer artificial respiration.

If unconscious place in recovery position and seek medical advice.

NEVER MAKE AN UNCONSCIOUS PERSON VOMIT OR DRINK FLUIDS

after contact with skin

Remove contaminated clothes, underwear and shoes immediately.

Wash skin thoroughly with soap and water or use recognized skin cleanser.

Do NOT use organic solvents.

after contact with eyes

Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart and seek medical advice.

after ingestion

If accidentally swallowed obtain immediate medical attention.

Do not induce vomiting.

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5. Fire-fighting measures

Suitable extinguishing media

Foam

CO2

Powder

Do NOT use water if avoidable

Special hazards from the material itself or its combustion products

Fire will produce dense black smoke.

Inhalation of dangerous decomposition products may cause severe health hazards.

Special fire fighting procedures

Avoid breathing fire vapours. Containers close to fire should be removed immediately or cooled with water. Suitable breathing apparatus may be necessary. Avoid water in straight hose stream, will scatter and spread fire.

6. Accidental release measures

Personal precautions

Keep away sources of ignition!

Ensure adequate ventilation.

Avoid inhalation of vapour!

Refer to protective instructions (see sections 7 and 8).

Environmental precautions

Do not allow to enter drains.

According to local regulations contamination of rivers, lakes or sewages must be reported to the appropriate authorities.

Methods for cleaning up/taking up

Wear necessary protective equipment. Soak up spillage with non-combustible absorbent material (e.g. sand, earth, kieselguhr, vermiculite) and collect in suitable containers for disposal according to the local regulations.

Provide ventilation and confine spill. Do not allow runoff to sewer.

7. Handling and storage

Handling

Advice on safe handling

Prevent the formation of flammable or explosive concentrations of vapour in air and avoid vapour concentrations higher than the occupational exposure limits.

The material should only be used in areas from which all naked lights, fire and other sources of ignition have been excluded.

Material may charge electrostatically: always use earthing leads when transferring from one container to another.

Operators should wear antistatic clothing and footwear.

No sparking tools should be used.

Avoid skin and eye contact.

Avoid inhalation of vapour and spray mist.

Smoking, eating and drinking should be prohibited in application area.

For personal protection see section 8.

Comply with the health and safety at work laws.

Advice on protection against fire and explosion

The vapours of the product are heavier than air.

They may bridge a considerable distance to any source of ignition.

Vapours may form explosive mixtures with air.

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Storage**Requirements for storage rooms and containers**

Electrical equipment must be explosion protected according to the appropriate standards.

Floors should be of conducting type.

Keep container tightly closed.

Never use pressure to empty; container is not a pressure vessel!

No Smoking!

No unauthorized entry.

Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Advice on storage compatibility

Keep away from strongly acid and strongly alkaline materials as well as from oxidizing agents.

Further information on storage conditions

Always keep in containers of same material as the original one.

Pay attention to the advices on the label.

Keep container tightly closed in a cool, dry, well-ventilated place.

Protect from heat and direct sunlight.

Keep away from sources of ignition.

The quantity allowed to be kept at the working place is limited to the quantity required for continuance of work. Maximum quantity is the consumption for one day production.

Storage class

VbF Group A Class I

8. Exposure controls/personal protection**Additional advice on system design**

Provide adequate ventilation. This should be achieved by the use of local exhaust ventilation and good general extraction.

If these are not sufficient to maintain concentrations of solvent vapour below the OEL-value, suitable respiratory protection must be worn.

Ingredients with occupational exposure limits to be monitored**- Designation of substance**

CAS number	STD	LT Exp 8 Hrs	ST Exp 15 Min
- n-butyl acetate			
123-86-4	OES	150 ppm	200 ppm

- n-butyl acetate

Values according to the valid lists (e.g. TRGS 900 for Federal Republic of Germany).

Personal protective equipment**Respiratory protection**

If the concentrations of solvents are above the exposure limits an appropriate certified respirator must be worn.

Hand protection

Gloves (solvent-resistant).

For prolonged or repeated contact, use barrier cream to protect the exposed areas of the skin.

Pay attention to the recommendations of the manufacturers!

Eye protection

Use safety eyewear designed to protect against splash of solvents!

Body protection

Personnel should wear antistatic clothing made of natural fibre (cotton) or of high temperature resistant synthetic fibre.

All parts of the body should be washed after contact.

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9. Physical and chemical properties

Appearance

Form liquid
 Colour clear
 Odour solvent
 flash point 30°C
 density/specific gravity (g/ml) 0.95
 Method Sh CC (Setaflash closed cup)
 VOC content 82%

10. Stability and reactivity

Stability Normally stable.

11. Toxicological information

Remarks

There are no data available on the preparation itself.
 Inhalation of solvents above the OEL-value may cause damages to health such as irritation of mucous membranes and respiratory tract and adverse effects on kidney, liver and central nervous system.
 Signs and symptoms: headache, vertigo, tiredness, muscular weakness, daze and, in exceptional cases, unconsciousness.
 Prolonged or repeated contact with the product may cause removal of natural fat from the skin resulting in drying-out.
 The product can penetrate through the skin into the body.
 The liquid splashed in the eyes may cause irritation and reversible damage.
 further toxicological comments
 According to our knowledge and information on hand the product does not cause any health hazard, if handled properly and used as intended.

12. Ecological information

Remarks

There are no data available on the preparation itself.
 Do not empty into drains.

13. Advice on disposal

Product

Do not dispose together with household waste.
 Codes of waste according to the European Waste Catalogue (EWC):
 08 01 02 Dangerous waste

Uncleaned packaging

Containers must be completely emptied (spatula clean) before they can be reused. Disposal according to regulations!

14. Transport information

Land transport UN number 1263
 ADR/RID Class 3, Cipher 31C
 ADR item No. III
 ADR label No. FLAMMA

Marine transport

IMDG-Class 3
 IMDG packing group III
 EmS No. 3-05
 Marine pollutant No

15. Regulatory information

Labelling in accordance with GefStoffV/EC-directives
 The product is classified and labelled in accordance with EC directives/German regulations on dangerous substances.

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Hazard symbols F Highly flammable
Xi Irritant

R phrases

R-11 Flammable.
R-37/38 Irritant to respiratory system and skin.
R-41 Risk of serious damage to eyes.
R-67 Vapours may cause drowsiness and dizziness.

S phrases

S-23 Do not breathe gas/fumes/vapour/spray.
S-24/25 Avoid contact with skin and eyes.
S-26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S-39 Wear eye/face protection.
S-51 Use only in well-ventilated areas.
S-60 this material and its container must be disposed of as hazardous waste.**16. Other information**

This information is based on the present state of our knowledge. They are meant as a description of the safety requirements of our product and are not to be considered as a guarantee of the product's properties.