# SAFETY DATA SHEET

Issue date: 26 March 2015
Supersedes 10 Feb. 2010

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

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|---|---|
| 1.1 Product identifier | Linseed oil paint Zinc oxide |
| 1.2 Relevant identified uses of the substance or mixture and uses advised against | As enhanced ageing protective agent for linseed oil paint.<br>Sector Use - SU:<br>SU19 Building and construction work<br>SU20 Health services<br>SU21 Private households (= general public = consumers)<br>SU22 Professional uses: Public domain<br>Chemical Product Category: PC9a: Coatings and paints<br>Process categories [PROC]: PROC10. Roller application or brushing<br>Environmental Release Categories:<br>ERC 8C Wide dispersive indoor use resulting in inclusion into or onto a matrix (paint)<br>ERC 8F Wide dispersive outdoor use resulting in inclusion into or onto a matrix (paint) |
| 1.3 Details of the supplier of the safety data sheet | Allbäck Linoljeprodukter AB |
| Address | Östra Balkåkravägen 18<br>SE-271 91 Ystad<br>Sweden |
| Phone | +46-(0)411-602 02 |
| e-mail | allback@allbackpaint.com |
| Contact | Sonja Allbäck |
| 1.4 Emergency telephone number | 24 hours service is available at www.nhs.uk<br>Call 112 or 999 if an acute emergency. If less acute call 111. |
| Issued by | Ann Martens, Ramboll Sweden AB, +46-(0)10-615 54 47 |

## 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

CLP:
Aquatic Acute 1; H400Very toxic to aquatic life.
Aquatic Chronic 1; Very toxic to aquatic life with long lasting effects.

DSD/DPD:
Dangerous for the Environment, N
R50/53 Very toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

2.2 Label elements

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|---|---|
| Faropiktogram |  |
| Signalord | Varning |
| Faroangivelse | H410 Very toxic to aquatic life with long lasting effects. |
| Skyddsangivelse – förebyggande | P273 Avoid release to the environment. |
| Skyddsangivelse – åtgärder | P391 Collect spillage. |
| Skyddsangivelse – förvaring | |
| Skyddsangivelse – avfall | P501 Dispose of contents/container to hazardous waste. |

Special labelling:
Interior/exterior trim and cladding paints for wood and metal (category d), VOC content < 18 g/l. EC-limit from 2010, 300 g/l.

2.3 Other hazards
Risk for spontaneous combustion if linseed oil is absorbed by porous organic material (cotton waste or rag). This oxidation, which gives rise to heat, can happen even at room temperature, but raised temperature increases the risk.

## 3. COMPOSITION / INFORMATION ON INGREDIENTS

| EC-no | CAS-no | REACH reg. no. | Components name | Conc. | Classification | Rem-ark |
|---|---|---|---|---|---|---|
| 232-278-6 | 8001-26-1 | Exempted from registr. | Linseed oil | 45-55% | -- | OEL |
| 240-085-3 | 15956-58-8 | 1314-13-2 | 2-Ethylhexanoic acid, manganese salt (only in boiled linseed oil) | 0.07 mg/litre paint | CLP: Eye Irrit. 2 H319, Repr. 2 H361 (Oral) (H361d), STOT RE 2 H373 (neurologiska effekter.) (Inhalation) H373 Aquatic Chronic 2 H411 DSD: Xi;R36 - Xn;R48/20/22 - R63 - N;R51/53 | |
| 215-222-5 | 1314-13-2 | Index no 030-013- | Zinc oxide | 45-55 % | CLP: Aquatic Acute 1; | OEL |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | 00-7<br>REACH no.<br>01-<br>211946388<br>1-32 | | | H400<br>Aquatic Chronic<br>1; H410<br>DSD:<br>N; R50/53 | |

Explanation of abbreviations:
CAS-nr. = Chemical Abstracts Service; EU-nr (Einecs- or Elincsnumber) = European Inventory of Existing Commercial Chemical Substances or European LIst of Notified Chemical Substances. DSD = Dangerous Substance Directive. CLP = Regulation Classification and Labelling of Packages.
Content specified as; %, %wt/wt, %vol/wt, %vol/vol, mg/m$^3$, ppb, ppm, wt%, vol%.
WEL = The product have a workplace exposure limit, PBT = The product is declared since it's a PBT- or a vPvB-substance.

Comments: Substances are declared according to both DSD and the CLP-regulation.
Linseed oil contains mainly natural triglycerides from oleic, linoleic, palmitic acid, linolenic acid and stearic acid.

For risk phrases in full text see section 16.

## 4. FIRST AID MEASURES

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| 4.1 Description of first aid measures | |
| Inhalation | Not relevant, except when spraying the product. Move to fresh air and rest if irritation occurs. |
| Skin contact | Wash the skin with soap or linseed oil soap and water. |
| Eye Contact | Remove contact lenses. Rinse the eyes for a couple of minutes.<br>If symptoms persist, seek a physician. |
| Ingestion | Drink copious amount of milk or water. The product is a laxative in large amounts, but no risk for intoxication. |
| 4.2 Most important symptoms and effects, both acute and delayed | |
| Inhalation | May cause some transient irritation to the respiratory tract. |
| Skin contact | Has no effect on skin. |
| Eye contact | Can give transient mild irritation. |
| Ingestion | Laxative. |
| 4.3. Indication of any immediate medical attention and special treatment needed | Access to water for rinsing eyes at the working place. |

## 5. FIRE-FIGHTING MEASURES

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| 5.1 Extinguishing media<br>a. Recommended Extinguishing media<br>b. Not Recommended Extinguishing media | a. Extinguish with foam, carbon dioxide, powder, water spray.<br>b. Water jet |
| 5.2 Special hazards arising from the substance or mixture | Self extinguishing at 343°C. Avoid smoke from the combustion. |
| 5.3 Advise for firefighters | Wear self contained breathing apparatus for fire fighting if necessary. Remove combustible material. Cool surfaces and |

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| | containers exposed to fire with water. |

## 6. ACCIDENTAL RELEASE MEASURES

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|---|---|
| 6.1 Personal precautions, protective equipment and emergency procedures | |
| 6.1.1. For non-emergency personnel | For personal protection equipment see section 8. Wash skin or contaminated clothes with water. |
| 6.1.2 For emergency responders | Wash with water. |
| 6.2 Environment precautions | The product will float on water and can be removed mechanically. Prevent discharge in the sewage system. |
| 6.3 Methods and material for containment and cleaning up<br>6.3.1. Surrounding embankment /sealing<br>6.3.2 Recommended cleaning up measures<br>6.3.3 Non-recommended measures | Make embankments with sand, soil or similar and collect. Small amounts could be washed away with water. The product is not hazardous waste and is easily biodegradable in nature.<br><br>If organic fibrous material is used for cleaning it is a fire risk and the material should be soaked in water. |
| 6.4 Reference to other sections | For personal protection see section 8. For disposal of waste, see section 13. |

## 7. HANDLING AND STORAGE

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| 7.1 Precaution for safe handling | Be aware of fire hazard in porous organic materials. Immerse rags in water. Avoid spills and prevent large quantities of the product to reach sewage system or surface water. Avoid eating, drinking and smoking in the working area. Wash hands after using the product. Remove contaminated clothing before meals. |
| 7.2 Condition for safe storage, including any incompatibilities | Store at room temperature. Keep away from children. |
| Preventing action | None |
| 7.3 Specific end use(s) | No specific end uses. |

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters
National occupational exposure limits values, EH40, 2005 with updates

| EU-no | CAS-no | Substance name | OES 8 h | MEL 5 min | OES 15 min | Year |
|---|---|---|---|---|---|---|
| | | Oil mist | 5 mg/m$^3$ | - | 10 mg/m$^3$ (10 min.) | UK value |
| 215-222-5 | 1314-13-2 | Zinc oxide dust | 5 mg/m$^3$ respirable dust<br>10 mg/m$^3$ | - | 10 mg/m$^3$ | UK value |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | total dust | | | |

The UK value is only for mineral oil. It is however wise not to exceed the OES value, even if there is no mineral oil in this product.

| CAS-nr | Ämnes-namn | PNEC (typ av miljö) | DN(M)EL (exponeringsväg) | Exposure scenario Annex |
|---|---|---|---|---|
| 1314-13-2 | Zinc oxide | PNEC (freshwater)<br>20.6 µg/L<br><br>PNEC (marine)<br>6.1 µg/L<br><br>PNEC (freshwater intermittent)<br>9.1 mg/L<br><br>PNEC STP<br>52 µg/L<br><br>PNEC sediment (freshwater)<br>117.8 mg/kg sedimentTS<br><br>PNEC sediment (marine)<br>56.5 mg/kg sedimentTS<br><br>PNEC soil<br>35.6 mg/kg dw | worker<br>Prolonged exposure , system effect<br>DNEL Dermal<br>83 mg/kg bw/dag<br><br>DNEL Inhalation<br>5 mg/m³<br><br>General polpulation<br>Prolonged exposure , system effect<br>DNEL Dermal<br>83 mg/kg bw/dag<br><br>DNEL Inhalation 2.5 mg/m³<br><br>Oral DNEL<br>0.83 mg/kg kroppsvikt/dag | Not present. |

8.2 Exposure controls

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|---|---|
| 8.2.1 Recommended technical control measures | None |
| 8.2.2 Individual protection measures, e.g. personal protection equipment | |
| Eye/face protection | None. |
| Skin protection<br>i) Hand protection (material, thickness, breakthrough time)<br>**ii) Other protection** | i) None.<br><br>ii) Normal working clothes. No special protection. |
| Respiratory protection | None when painting. If polishing or grinding dried product a dust mask could be used.<br>If the occupational exposure value is surpassed use half mask with particle filter P2 and filter A. |
| 8.2.3 Environmental exposure control | Non release to water or sewage system. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

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| Appearance/State of aggregation | Liquid |
| Colour | Light brown |
| Odour | Linseed |
| Density | 1.3-1.7 kg/l depending on the colour. |
| Boiling point | 349 °C |
| Melting point | -19 °C |
| Flash point | 222 °C |
| Auto ignition temperature | 343 °C |
| Oxidizing properties | Oxidizing. Can self ignite in porous materials |
| Solubility in water | Can only emulsify and is not soluble in water. |
| Solubility in other solvents | The product is partially soluble in many solvents, but it is not recommended to mix with solvents. |
| Partition coefficient n-octanol/water | Not determined but probably >3 for the linseed oil in the product. Linseed oil does normally consist of about 18-23 % oleic acid and this has a log Kow 7.7. The other triglycerides in linseed oil are similar. |
| VOC content | <18 g/l |
| Emission factor, Total volatile organic compounds, TVOC | 64 µg/($m^2$xh) after 4 week of drying time for linseed oil paint (pure linseed oil is not tested).<br>18 µg/($m^2$xh) after 26 weeks of drying time for oil paint. |

## 10. STABILITY AND REACTIVITY

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|---|---|
| 10.1 Reactivity | The product is not reactive during normal handling and storage conditions. |
| 10.2 Chemical stability | Stable at normal storing conditions. Do not store above room temperature and not below 4°C |
| 10.3 Possibility of hazardous reactions | None |
| 10.4 Conditions to avoid | Strong acids, bases and oxidizing agents. Prolonged contact with porous organic materials. |
| 10.5 Incompatible materials | None |
| 10.6 Hazardous decomposition products | None at normal handling conditions. |

## 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

General information: Linseed oil is a common animal nutrition additive and has no known toxicological hazards.

Zinc is an essential metal and the recommended daily intake is approximately 5-19 mg/day (EU RAR). Compared to this intake via food, intake via dust from the product is very negligible. NOAEL for humans is 50 mg $Zn^{2+}$/day. Zinc oxide imposes low risk at normal use of the product.

Acute toxicity: Linseed oil: >15000 mg/kg body weight.

Zinc oxide LD50 rat > 5000 mg/kg OECD 401.

Inhalation:

Linseed oil: LC50 (4h) > 20 mg/l (IMO). Inhalation is only a risk when spraying the product. The product could cause irritation if occupational exposure limit for oil mist is surpassed. The product consumes oxygen when drying and good ventilation is necessary. If inferior ventilation exists, there is a risk for headache.
Zinc oxide LC50 rat 4 h. >5,7 mg/l.
Skin contact: Repeated contact might dry out the skin, but during normal use there is no hazard.
Ingestion: Linseed oil is a laxative, but single ingestion will not give raise to any hazard.
Sensitization: Not a sensitizer.
Carcinogenic effects: None known effect of the product.
Reproductive toxicity: None known.
Mutagenic effects: None known.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

Acute toxicity:
Linseed oil: LC50 > 1000 mg/l (DHI report).
Zinc oxide, which is the component in the product that give raise to environmental classification.
Fish LC50 96h: 1.1 mg/l Species: Oncorhynchus mykiss
LC50 96h: >320 mg/l Species: Lepomis macrochirus
LC50 96h: 2246 mg/l Species Pimephales promelas
Algae: EC50 72h: 0.17 mg/l Species Selanastrum capricornutum
Daphnia Magna EC50 48h> 1000 mg/l.

Long term toxicity: The product is toxic for the aquatic environment with long-lasting effects.
Terrestrial organisms: Earthworm EC10 21 d, 127 mg/kgdw.
Lowest NOEC 38 mg/kgTS (nitrification inhibition on 15 different soil types)
Plants: Zinc oxide can harm growing plants e.g. the ability for corn to germinate.
Effects on micro-organisms living in wastewater treatment plants
The product has no known effect on microorganism living in wastewater treatment plants.

### 12.2 Persistence and degradability

Linseed oil is easily degradable (DHI report).
Degradation is not relevant for zinc oxide because it is a inorganic compound.

### 12.3 Bioaccumulative potential

The product will not bioaccumulate. BCF < 10 (DHI report).

### 12.4 Mobility in soil

Linseed oil is water soluble but easily degradable and thus the mobility in soil will not be so high.
Zinc oxide is insoluble and has low mobility.

### 12.5 Results of PBT and vPvB assessment

The product does not contain any PBT or vPvB substance.

### 12.6 Other adverse effects

None known.

## 13. DISPOSAL CONSIDERATIONS

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|---|---|
| 13.1 Waste treatment methods | a) Empty plastic package are sorted as hard plastic. The packaging material consists of polypropylene.<br>The product could be incinerated in a suitable incineration plant holding a permit delivered by the competent authorities.<br>b) There are no physical/chemical properties that may affect the waste treatment solutions.<br>c) Larger residues should not be released to the sewage system. No special security measures concerning waste treatment methods are needed. |
| Waste codes (EWC) | Depends where the waste is produced, but suitable codes are 20 01 27. |
| The product is classified as hazardous waste | Yes |
| Waste codes (EWC) for the container | A suitable code for the package is 15 01 10 (if not washed)<br>Empty package 15 01 07, 20 01 40 or 20 01 02. |
| A not thoroughly cleaned container is considered dangerous waste | No |
| Other information | See section 8 for personal protection during disposal of waste. |

## 14. TRANSPORT INFORMATION

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|---|---|
| General | Regulated as hazardous goods |
| 14.1 UN number | 3082 |
| 14.2 UN Proper Shipping Name | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (zinc oxide) |
| 14.3 Transport hazard class(es) | 9<br>ADR: Hazard Identification No. 90 |
| 14.4 Packing group | III |
| 14.5 Environmental hazards | IMDG Marine pollutant. |
| 14.6 Special precautions for users | ADR: Tunnel restrictions 3 (E)<br>IMDG: EmS, F-A, S-F |
| 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code | The product is not transported in bulk, but if it will happen in the future this product is listed in Annex II of the Marpol convention.<br>Vegetable oil floating on water is also listed as IMO category 2. Vegetable oils pollution category Y, ship type 2. |

## 15. REGULATORY INFORMATION

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

No relevant.

15.2 Chemical safety assessment

Chemical safety assessment is not made for linseed oil as it is exempted from registration according to REACH. It is probably done for zinc oxide but Allbäck does not have access to this information.

## 16. OTHER INFORMATION

This MSDS is changed in the following sections:
All of the SDS is changed with new compulsory headlines. New classification and labelling in section 2 and 3.Section 11 and 12: More information about linseed oil.

VOC is determined according to ISO 11890-2. The volatile VOC will probably remain in the colour due to cross-binding reactions. This has been shown in emission measurements during painting with linseed oil paint. VOC content is declared for the colour with the highest content of linseed oil (white).

Hazard and Precautionary statements from section 2 and 3 in plain text (CLP):

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|---|---|
| Eye Irrit. 2 | Serious eye damage/eye irritation, Hazard Category 2 |
| H319 | Causes serious eye irritation. |
| Repr. 2 | Reproductive toxicity, Hazard Category 2 |
| H361d | Suspected of damaging fertility or the unborn child (oral). |
| STOT RE 2 | Specific target organ toxicity — Repeated exposure, Hazard Category 2 |
| H373 | May cause damage to organs (neurological effects) through prolonged or repeated exposure (Inhalation). |
| Aquatic Acute 1 | Hazardous to the aquatic environment — AcuteHazard, Category 1 |
| H400 | Very toxic to aquatic life. |
| Aquatic Chronic 1 | Hazardous to the aquatic environment — Chronic Hazard, Category 1 |
| H410 | Very toxic to aquatic life with long lasting effects. |
| Aquatic Chronic 2 | Hazardous to the aquatic environment — Chronic Hazard, Category 2 |
| H411 | Toxic to aquatic life with long lasting effects. |

Risk and Safety phrases from section 2 and 3 in plain text DSD 67/548/EEC:

Xi = Irritant
R36 Irritating to eyes.
Xn = Harmful
R48/20/22 Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.
R63 Possible risk of harm to the unborn child.
N = Dangerous for the environment
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Sources for data in this MSDS

- MSDS from supplier of ingredients for this product.
- ECHA database registered substances, http://echa.europa.eu/
- ESIS (European chemical Substances Information System).
- Prevent, Chemical Substances database, (http://kemi.prevent.se/)
- Riskline database, http://apps.kemi.se/riskline/index.htm
- IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, vol. 47, Some Organic Solvents, Resin Monomers and Related Compounds, Pigments and Occupational Exposures in Paint Manufacture and Painting, 13 April 1999.

- EU Risk Assessment Report (RAR) Zinc oxide, Final Report May 2008
- ECHA, Guidance on information requirements and chemical safety assessment: Guidance on information requirements and chemical safety assessment Chapter R.12: Use descriptor system. Draft ver. 2.0, 2009
- European Commission DG Environment Report October 2008 from DHI. Review of Annex IV of Reg. 1907/2006 Contract No. 070307/2007/473055/MAR/D1 and appendix 2 Evaluation of existing entries, Linseed oil.
- IMO INTERNATIONAL MARITIME ORGANIZATION. BLG WORKING GROUP ON THE EVALUATION OF SAFETY AND POLLUTION HAZARDS OF CHEMICALS. 30 September 2005, Linseed oil (containing less than 4% free fatty acids). Submitted by the United Kingdom.


Other information:

The safety data sheet is based on the REACH regulation 1907/2006/EC and other appropriate directives for classification and labelling like 67/548/EEC and 1999/45/EC. The CLP-regulation EC/1272/2008 is also used for classification in section 3.

Labelling according to the VOC directive 2004/42/EC.