Material Safety Data Sheet
Rosin

Edition: 01/11/2017

1) Identification of substance/preparation and of the company undertaking

<table>
<thead>
<tr>
<th>Material</th>
<th>Rosin</th>
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</thead>
<tbody>
<tr>
<td>Chemical Name</td>
<td>Abietic Acids</td>
</tr>
<tr>
<td>Synonyms</td>
<td>Colophony, Kolophonium, Pine Rosin, Gum Rosin, Wood Rosin</td>
</tr>
<tr>
<td>CAS No</td>
<td>8050-09-7</td>
</tr>
<tr>
<td>EINECS No</td>
<td>232-475-7</td>
</tr>
<tr>
<td>REACH Registration No</td>
<td>01-2119480418-32-xxxx</td>
</tr>
<tr>
<td>Company</td>
<td>Inoxia Ltd</td>
</tr>
<tr>
<td></td>
<td>45.7 Dunsfold Park</td>
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<tr>
<td></td>
<td>Stovolds Hill</td>
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<td></td>
<td>Cranleigh</td>
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<tr>
<td></td>
<td>Surrey</td>
</tr>
<tr>
<td></td>
<td>GU6 8TB</td>
</tr>
<tr>
<td>Tel</td>
<td>02032 909990</td>
</tr>
<tr>
<td><a href="mailto:safety@inoxia.co.uk">safety@inoxia.co.uk</a></td>
<td><a href="http://www.inoxia.co.uk">www.inoxia.co.uk</a></td>
</tr>
</tbody>
</table>

1.2) Relevant Identified Uses
Friction Aid, Grip Aid, Solder Flux, Electrical Insulation, Non-Draining Compound, Coatings, Emulsion, Adhesives, Depilatory Wax, Clay Pigeon, Polish, Sealants, Dental Cement, Pigment Manufacture

2) Hazards Identification

2.1) Classification of the substance or mixture
According to 1272/2008/EC Regulation
Skin sensitizer Category 1

2.2) Label Elements

Pictogram

⚠️ Signal word: warning

Hazard statements:
H317- May cause an allergic skin reaction

Precautionary statements:
P210- Keep away from heat/sparks/open flames/hot surfaces. No smoking
P261- Avoid breathing dust/fume
P280- Wear protective gloves/protective clothing
P302+P352- If on skin: wash with plenty of soap and water.
**According to 67/548/EC Regulation**

Xi- Irritant Risk Phrase

Safety Phrases:
- **S 24** - Avoid contact with skin
- **S 37** - Wear suitable gloves

### 3) Composition

In accordance with Annex II of Regulation (EC) n°1907/2006 (point 3), the product contains:

<table>
<thead>
<tr>
<th>Identification</th>
<th>Chemical name/classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS: 8050-09-7</td>
<td>Rosin ATP CLP00</td>
<td></td>
</tr>
<tr>
<td>EC: 232-475-7</td>
<td>Directive 67/548/EC Xi: R43</td>
<td>100%</td>
</tr>
<tr>
<td>Index: 650-015-7</td>
<td>Regulation 1272/2008 Skin sens1: H317- Warning</td>
<td></td>
</tr>
</tbody>
</table>

### 4) First Aid Measures

#### 4.1) Description of first aid measures

- **Product in eyes**: Immediately flood eyes with plenty of low pressure water for at least 10 minutes, holding eye open. Remove contact lenses. Obtain medical assistance if redness develops or persists.
- **Product on skin**: Wash skin thoroughly with soap and water. Obtain medical help if redness develops.
- **Hot product on skin**: Small splashes should be cooled with cold water. When cold, the burn area should then be treated and when this process is complete the solid resin can be removed. Where larger splashes are encountered, cool the skin with water and seek medical help.
- **Product ingested**: Wash out mouth with water. Do not induce vomiting. Obtain medical attention if a large amount has been swallowed.
- **Product inhaled**: Remove from exposure, keep warm and at rest. Obtain medical attention if breathing difficulty occurs.

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

Acute and delayed effects are indicated in sections 2 and 11.

### 5) Fire Fighting

#### 5.1) Extinguishing Media

- **Suitable extinguishing media**: Carbon dioxide, dry chemical or water fog
- **Unsuitable extinguishing media**: Water
5.2) Special hazards arising from the substance or mixture

Protective equipment
- Self-contained breathing apparatus needed for fires in enclosed areas

Other information
- Rosin dust is a severe explosion hazard in air; avoid dispersing dust in air. Minimum exposable concentration: 15g/m$^3$. Risk of spark ignition prevented by reducing oxygen concentration below 17% by dilution with carbon dioxide.

6) Accidental Release Measures

6.1) Personal Precautions
- Avoid breathing dust. Wear a dust respirator, gloves, chemical goggles and overalls.

6.2) Environmental Precautions
- Avoid dispersion of the product

6.3) Clean-up Methods
- Sweep up or otherwise recover the product and remove to a safe environment
- Additional advice
  - Avoid propagating more dust than is absolutely avoidable

7) Handling/Storage

7.1) Precautions for safe handling
- Personal protection: Wear protective clothing and dust mask
- Dust: Avoid processes that generate excessive dust

7.2) Conditions for safe storage
- Suitable storage container: Galvanised iron drums or paper stacks internally coated with silicone or with a polypropylene liner
- Handling/storage precautions: Explosion proof ventilation adequate to meet any dust conditions at room temperature. Store in cool, well ventilated conditions. Explosion proof electrical services should be used where dusty conditions prevail. Prevent static sparks. Product can spontaneously heat during storage- exercise care. Avoid placing this material next to, or in contact with, oxidising agents.

7.3) Specific end use(s)
- Except for the instructions already specified it is not necessary to provide special recommendations regarding uses of this product.

8) Exposure Controls

8.1) Control parameters
- Substances whose occupational exposure limits have been monitored in the work environment
  - Nuisance dust: Inhalable dust 10mg/m$^3$ Respirable dust: 4mg/m$^3$
  - DNEL workers
Acute / short-term exposure - systemic effects
Dermal DN(M)EL No-threshold effect and/or no dose-response information available
Inhalation DN(M)EL No-threshold effect and/or no dose-response information available

Acute / short-term exposure - local effects
Dermal DN(M)EL No-threshold effect and/or no dose-response information available

Long-term exposure - systemic effects
Dermal DN(M)EL DNEL (Derived No Effect Level) = 17 mg/kg bw/day
Inhalation DN(M)EL DNEL (Derived No Effect Level) = 117 mg/m³

Long-term exposure - local effects
Dermal DN(M)EL No-threshold effect and/or no dose-response information available
Inhalation DN(M)EL No-threshold effect and/or no dose-response information available

General population
Acute / short-term exposure - systemic effects
Dermal DN(M)EL No-threshold effect and/or no dose-response information available
Inhalation DN(M)EL No-threshold effect and/or no dose-response information available
Oral DN(M)EL No-threshold effect and/or no dose-response information available

Acute / short-term exposure - local effects
Dermal DN(M)EL No-threshold effect and/or no dose-response information available
Inhalation DN(M)EL No-threshold effect and/or no dose-response information available

Long-term exposure - systemic effects
Dermal DN(M)EL DNEL (Derived No Effect Level) = 10 mg/kg bw/day
Inhalation DN(M)EL DNEL (Derived No Effect Level) = 35 mg/m³
Oral DN(M)ELD NEL (Derived No Effect Level) = 10 mg/kg bw/day

Long-term exposure - local effects
Dermal DN(M)EL No-threshold effect and/or no dose-response information available
Inhalation DN(M)EL No-threshold effect and/or no dose-response information available

Components to control with biological restricted values:
PNEC
Freshwater 0,0016 mg/L
Freshwater sediments 0,007 mg/kg sediment dw
Marine water 0,00016 mg/L
Marine sediments 0,0007 mg/kg sediment dw
Oral No bioaccumulation potential
STP 1000 mg/L
Soil 0,0045 mg/kg soil dw

8.2 Exposure controls
Appropriated technical control measures Dust extraction pointed to local of formation.

Personal protection equipment
Respiratory protection: Wear respiratory protection against organic vapours.
Hand protection Wear appropriate gloves to prevent skin exposure.
Eye/face protection Wear chemical splash goggles conforming to EN 166.
Skin protection Wear appropriate clothing to prevent skin exposure.
Environmental exposure control
Organizational measures
Apply general preventive measures in chemical safe handling.

9) Physical/Chemical Properties

9.1 Information on basic physical and chemical properties
Appearance Water-white to dark brown vitreous solid
Odour Characteristic (slight turpentine odour)
pH - N/A
Melting Point/(Ring & Ball) 65 - 90°C
Flash Point >205°C
Auto ignition temperature >390°C
Explosive Properties Severe dust explosion hazard in air
Oxidising Properties None
Vapour Pressure <0.1hPa
Solubility- Water ~1.09
Solubility- Solvent Insoluble
Other Properties Aromatic hydrocarbons, chlorinated hydrocarbons, alcohols, ketones. Unsaponifiable matter 8% max

10) Stability/Reactivity
10.1) Reactivity
No hazardous reactions are expected
10.2) Chemical stability
Stability Substance is stable at normal temperature and pressure.
Oxidation Substance is oxidised by atmospheric oxygen.

10.4) Conditions to Avoid
Generation of dust in air

10.5) Incompatible Materials
Oxidising agents

10.6) Hazardous Decomposition Products
Thermal oxidation may result in formation of formaldehyde and carbon monoxide

11) Toxicological Info
11.1) Information on toxicological effects
Oral acute toxicity
Method OECD Guideline 420 (Acute Oral Toxicity) Species rat (male and female)
Route of administration oral, gavage
Does single dose

Conclusion LD50 > 2000 mg/kg similar substance. The classification criteria for oral acute toxicity or specific target organ toxicity by acute exposure were not met, according to GHS, CLP and 67/548/EC. Analysis based on acquired data.

Inhalation Based on available data, the classification was not met

Dermal acute toxicity
Method OECD Guideline 402 (Acute Dermal Toxicity) / EU Method B.3 (Acute Toxicity (Dermal))
Species rabbit (male and female)
Route of administration dermal, topic
Doses 2000mg/kg bw
Period of exposure 24 hours
Conclusion LD50 > 2000 mg/kg (rabbit, male/female), similar substance Classification criteria for dermal acute toxicity, irritation or skin corrosion or for single target organ toxicity by acute exposure, based on GHS, CLP and 67/548/EC, were met. Analysis based on acquired data for similar substance.

Irritation and skin corrosion
Classification not determined due to lack of data.
Method OECD Guideline 404 (Acute Dermal Irritation / Corrosion) / EU Method B.4
Species rabbit
Route of administration dermal, semiocclusive
Doses 0.5g
Period of exposure 4hrs
Conclusion during tests no edema was observed. Classification criteria for dermal acute toxicity, irritation or skin corrosion or for single target organ toxicity by acute exposure, based on GHS, CLP and 67/548/EC, were not met. Analysis based on acquired data.

Eye irritation and damage
Method: OECD Guideline 405 (Acute Eye Irritation / Corrosion), equivalent method to
Species rabbit
Route of administration cornea, topic
Doses 100mg/eye/specimen
Period of exposure single dose
Conclusion slight reversible redness of the conjunctivae was observed on some animals Classification criteria for eye irritating, based on GHS, CLP and 67/548/EC, were not met. Analysis based on acquired data.

Skin sensitization
Method OECD Guideline 429 (LLNA), method equivalent to
Species rat (female)
Conclusion Based on study results, rosin is not a moderate or strong skin sensitizer to rats. Rosin did not show any potential to acts as
skin sensitizer. The classification criteria for skin sensitizing, based on GHS, CLP and 67/548/EC, were not met. Analysis based on acquired data.

**Sensitizing effects by inhalation**

**Mutagenicity**

**Method**
OECD Guideline 471 (Bacterial Reverse Mutation Assay); EU Method B.13/14 (Mutagenicity - Reverse Mutation Test Using Bacteria)

**Conclusion**
Absence of genotoxic and mutagenic effects. Classification criteria were not met. Analysis based on acquired data. Based on the data available, the classification was not met.

**Carcinogenicity**

**Toxicity for reproduction**

**Method:**
OECD Guideline 421 (Reproduction / Developmental Toxicity Screening Test) NOAEL reproductive = 3000 ppm (nominal) (male and female) Not determined on F1 generation.

**Conclusion:**
Criteria were not met and the product is not classified for Developmental or Reproductive Toxicity according to GHS, CLP and 67/548/EC. Analysis based on acquired data.

**Long exposure effects**
No reliable data available.

**STOT - single exposure**
Based on available data, the classification was not met.

**STOT - repeated exposure**
Based on available data, the classification was not met.

**Respiratory risks:**
Based on available data, the classification was not met.

12) **Ecological Information**

12.1) **Toxicity**

**Short-term toxicity**

**Fish**
96h, LL50 < 10 mg/l (nominal, based on mortality)
Brachydanio rerio, OECD 203
48h, NOELr = 750 mg/l(nominal, based on mobility)

**Aquatic invertebrates**
48h, EL50 = 911 mg/l (nominal, based on mobility)
Daphnia magna, OECD 202
72h, NOELr ≥ 1000 mg/l (nominal, similar substance, based on growth rate and biomass)

**Algae and aquatic plants**
72h, LL50 = 1000 mg/l (nominal, similar substance, based on growth rate and biomass) Selenastrum capricornutum, OECD 201

**Other organisms**
Not determined
12.2 Persistency and biodegradability
Abiotic degradability
Not determined
Photochemical and physico-chemical elimination
Not determined
Biodegradation
Substance is readily biodegradable. 71% degradation after 28 days. OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)

12.3 Bioaccumulation potential
Partition coefficient n-octanol/water (log Kow) refer to section 9
Bioconcentration factor (BCF) 56,23 l/kg wet-wt (QSAR, regression based m.)
Bioaccumulation factor (BAF) 694 000 (Arnot-Gobas upper trophic m.)

12.4 Soil mobility
Partition coefficient soil/water (Koc) log Koc = 3,7289 (QSAR, estimated from log Kow)

12.5 PBT evaluation results
Product does not fulfil PBT or vPvB criteria.

12.6 Other adverse effects -
Additional information -

13) Disposal Consideration
13.1 Waste treatment methods
Recommendation Dispose of waste to a licensed disposal site in accordance with the requirements of the local Waste Disposal Authority. Do not allow into drains, sewers and water courses

Contaminated packaging Used containers should be recycled after dust removal

14) Transport Information
Not classified in accordance with ADR/RID, IMDG and IATA

15) Regulatory Information
15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
Classification acc. to
Regulation (CE) n. 1005/2009 Not applicable
Regulation (CE) n. 1907/2006
- Annex XVII
  Not restricted substance.
Directive n. 2003/53/EC
  Not applicable.
Directive n. 2003/105/CE
  Substance not classified in the scope of the directive.
Regulation (CE) n. 850/2004
  Not applicable.
The German Federal Water Management Act
  Classe WGK 1

16) Other Information
Abbreviations and acronyms
ADR: International Carriage of Goods by Road
IMDG: International Maritime Dangerous Goods
IATA: International Air Transport Association
ICAO: International Civil Aviation Organisation
BCF: Bioconcentration factor
LD50: Lethal Dose 50
LC50: Lethal Concentration 50
KOC: Partition Coefficient of organic carbon
OECD: Organisation for Economic Cooperation Development
NOEL: No observed effect level
STOT: Specific Target Organ Toxicity
QSR: Quantitive Structure Activity Relationship
LLNA: Local Lymph Node Assay

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

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