MATERIAL SAFETY DATA SHEET MSDS

FOR ROSINMAKERS THORVALDSSON'S ROSINS

Revision date : 01 Mars 2021

SECTION 1: NAME AND PRODUCT IDENTIFICATION	
NAME AND ADRESS: THORVALDSSON 74 IMPASSE DES ACACIAS 38300 SAINT AGNIN SUR BION FRANCE	
EMERGENCY CONTACT: ALEXANDRE THORVALDSSON	
EMERGENCY TELEPHONE: +33 4 74 28 37 79	
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NAME OF SUBSTANCE: ROSINS	
TRADE NAME: MILLANT-DEROUX ROISN JADE ROSIN GOLD & SILVER ROSIN STRAD ROSIN PECCATTE ROSIN SARTORY ROSIN	451060, 451075 451065, 451067, 451250 451062, 451255 451068
USES: FOR APPLICATION ON THE HORSEHAIR FOR: VIOLIN BOWS VIOLA BOWS CELLO BOWS BASS BOWS	

THORVALDSSON'S HANDMADE IN OUR WORKS 38300 SAINT AGNIN FRANCE VAT FR 34 440 439 339 www.rosinmakers.com QUALITY ROSINS

SECTION 2: HAZARDS IDENTIFICATION
Classification according to regulation (EC) No 1272/2008 The substance is classified according to the CLP regulation
H317 May cause an allergic skin reaction
P261 Avoid breathing dust/fume/gas/mist/vapors/spray
P280 Wear protective gloves/protective clothing/eye protection/face protection
P302+P353 IF ON SKIN: Wash with plenty of water
P333+P313 If skin irritation or rash occurs: get medical advice/attention
P501 Dispose of contents/container in accordance with local/regional/national/international regulations
○ **Information concerning to particular hazards to man and environment:** Fine particles and powder may cause skin irritation by mechanical abrasion. However, based on available data, the classification criteria are not met. Inhalation (dust or vapors/fumes generated by heated products) may cause respiratory irritation with throat discomfort, coughing or breathing difficulty. Hot molten products: Burns may cause irreversible eye injury and blindness. Causes kin burns. Other hazards: Resin dust may ignite on contact with electrostatic discharge or exposure to flame or other sources of ignition. Hot molten product: may burn if ignited.

SECTION 3: COMPOSITION

- **Chemical characterization**: Substance UVCB
  - CAS number: 8050-09-7
  - EC number: 232-475-7
  - Index number: 650-015-00-7
  - Description: Gum rosin

SECTION 4: FIRST AID MEASURES

- **Description of first aid measures**
  - **After inhalation:**
    Supply fresh air. If symptoms are experienced, get medical attention.
    In case of unconsciousness place patient stably in side position for transportation.
  - **After skin contact:**
    Product at ambient temperature :
    Immediately rinse with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if irritations occurs.
    Hot product:
    Immediately immerse or flush the burn area with large amounts of cold water (at least 15 minutes). Do not remove solidified material from burned skin as the damaged skin can be easily torn. Transfer immediately to hospital.
  - **After eye contact:**
    Product at ambient temperature:
    Immediately rinse with water. Remove contact lenses if present and easy to do. Hold eyelids apart and flush eyes with plenty of cool low-pressure water for several minutes. Il symptoms persist, consult a doctor.
    Hot product:
    Do not open eyelids if covered with resins. Immediately flush eyes with large amounts of water for at least 15 minutes. Do not remove solidified material from burned eye as the damaged tissues can be easily torn. Transfer immediately to hospital.
  - **After swallowing:**
    Do not induce vomiting. If the person is conscious, immediately rinse out mouth with water.
    - No adverse health effects are expected from accidental ingestion of small amounts of this product. In case of lasting symptoms, consult a doctor.
    - For ingestion of large amounts: do not induce vomiting and get medical attention.

- **Most important symptoms and effects, both acute and delayed** No data available.

- **Indication of any immediate medical attention and special treatment needed**
  For doctors: Mineral oil may be used to loosen and soften the material.

SECTION 5: FIREFIGHTING MEASURES

- **Suitable extinguishing agents**
  Carbon dioxyde (CO2), foam, fire-extinguishing powder, water spray.
  Fight large fires with water spray or foam.

- **Special hazards arising from the substance or mixture**
  In case of fire, may release irritant and toxic fumes.

- **Advice for firefighters**
  - **Protective equipment :**
    Firefighters should wear appropriate protective equipment and self-contained breathing apparatus

SECTION 6: ACCIDENTAL RELEASE MEASURES

- **Personal precautions, protective equipment and emergency procedures**
  Wear appropriate personal protective equipment. Keep unprotected persons away.
  Provide adequate ventilation.
  Avoid dust formation.

- **Environmental precautions**
  Do not allow product to reach soil, waterways, drains and sewers.
  Inform the relevant authorities if the product has caused environmental pollution (soil, waterways, drains or sewers).

- **Methods and material for containment and cleaning up**
  Pick up mechanically.
  Avoid as much as you can the formation of dust.
  Collect and seal in an appropriate container properly labelled for disposal.

- **Reference to other sections**
  See section 8 for information on personal protection equipment.
  See section 13 for disposal information.

SECTION 7: HANDLING AND STORAGE

- **Precautions for safe handling**
  Wear appropriate personal protective equipment. Provide adequate ventilation in the workplace.
  Avoid as much as you can the formation of dust.
  Provide suction extractors if dust is formed.

- **Information about fire - and explosion protection:**
  Protect against electrostatic charges.
  Use only non-sparking tools.
  Protect from heat.
  Keep ignition sources away.
  Do not use compressed air and do not blow to remove resin dusts when cleaning the working cloths or equipments.
  Local suctions extractor can be used (if an appropriate maintenance is carried out).

- **Conditions for safe storage**
  Store if possible under cover in a dry, cool and well-ventilated area.
  Provide storage areas with suitable ventilation to eliminate dust.
  Avoid dust formation close to sources of ignition.
  Protect from heat and direct sunlight.
  All equipments including ventilation systems must be equipotential and earthed.
  - **Further information about storage conditions:**

  Recommended storage temperature: Store at a temperature between 5 and 30°C.

- **Specific end use(s)** Exposure scenarios are available on request.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

- **Control parameters**
  - **Components with limit values that require monitoring at the workplace:**

Inhalable dust:
Austria: limit value - 8 hours = 10 mg/m³
Austria: limit value - short term = 20 mg/m³
Belgium: limit value - 8 hours = 10 mg/m³
Denmark: limit value - 8 hours = 10 mg/m³
Denmark: limit value - short term = 20 mg/m³
France: limit value - 8 hours = 10 mg/m³ (restrictive statutory limit value)
Germany (AGS): limit value - 8 hours = 10 mg/m³
Germany (AGS): limit value - short term = 20 mg/m³
Germany (DFG): limit value - 8 hours = 4 mg/m³
Hungary: limit value - 8 hours = 10 mg/m³
Ireland: limit value - 8 hours = 10 mg/m³
Spain: limit value - 8 hours = 10 mg/m³
Sweden: limit value - 8 hours = 10 mg/m³
Switzerland: limit value - 8 hours = 10 mg/m³

Respirable dust:
Austria: limit value - 8 hours = 5 mg/m³
Austria: limit value - short term = 10 mg/m³
Belgium: limit value - 8 hours = 3 mg/m³
France: limit value - 8 hours = 5 mg/m³ (restrictive statutory limit value)
Germany (AGS): limit value - 8 hours = 3 mg/m³
Germany (AGS): limit value - short term = 6 mg/m³
Germany (DFG): limit value - 8 hours = 1.5 mg/m³
Hungary: limit value - 8 hours = 6 mg/m³
Ireland: limit value - 8 hours = 4 mg/m³
Spain: limit value - 8 hours = 3 mg/m³
Sweden: limit value - 8 hours = 5 mg/m³
Switzerland: limit value - 8 hours = 3 mg/m³

- **DNELs**

- **DNEL (Derived No-Effect Level): Workers - Long-term exposure**
  Systemic effects - dermal: 17 mg/kg bw/d
  Systemic effects - inhalation: 177 mg/m³

- **DNEL (Derived No-Effect Level): General population - Long-term exposure**
  Systemic effects - dermal: 10 mg/kg bw/d
  Systemic effects - inhalation: 35 mg/m³
  Systemic effects – oral : 10 mg/kg bw/d

- **PNECs**

- **PNEC (Predicted No-Effect Concentration) aqua (freshwater):** 0.0016 mg/L
- **PNEC (Predicted No-Effect Concentration) aqua (marine water):** 0.00016 mg/L
- **PNEC (Predicted No-Effect Concentration) Sewage Treatment Plant:** 1000 mg/L

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continue)

- **PNEC (Predicted No-Effect Concentration) sediment (freshwater):** 0.007 mg/kg sediment dw
- **PNEC (Predicted No-Effect Concentration) sediment (marine water):** 0.0007 mg/kg sediment dw
- **PNEC (Predicted No-Effect Concentration) soil:** 0.00045 mg/kg soil dw
- **PNEC (Predicted No-Effect Concentration) aqua (intermittent releases):** 0.016 mg/L

- **Additional information:**
  This sheet is based on the current valid lists for occupational exposure limit values. Concerning DNELs and PNECs, this sheet is based on the REACH chemical safety evaluation.

- **Exposure controls**
  - **General protective and hygienic measures:**

The usual precautionary measures are to be adhered to when handling chemicals. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Immediately remove all soiled and contaminated clothing. Avoid contact with eyes and skin.

- **Personal protective equipment**
  - **Respiratory protection:**
    In case of insufficient ventilation:
    Avoid breathing particles by wearing a dust mask (FFP3 or FFP2 as a minimum).
    Avoid breathing vapors by wearing an appropriate filter cartridge mask.
  - **Hand protection:**
    Protective gloves resistant to chemicals (standard EN 374-1). They should be replaced regularly and if there is any indication of degradation or chemical breakthrough.
  - **Eye protection:** Safety glasses (standard EN 166).
  - **Body protection:**
    Protective work clothing.
    Personnel exposed to HOT MOLTEN or HOT LIQUID material should wear protective clothing that provides protection against thermal burns.
- **Risk management measures**
  Further information on how to manage the risks arising from dusts and from hot resins:
  - HARRPA guidance - SAFE HANDLING OF HOT ROSIN/RESINS
  - HARRPA guidance - RESIN DUST EXPLOSION RISKS

  http://www.harrpa.eu/

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

- **Information on basic physical and chemical properties**
  - **General Information**
  - **Appearance:**

Form:	Solid
Colour:	Yellowish-amber coloured or green or red
Odour:	Light Pine
Odour threshold:	Not determined

- **Change in condition**

Melting/freezing point: Not applicable.

Initial boiling point and boiling range: Not applicable (the substance decomposes before boiling)

Softening point / range: 66 - 94 °C

- **Flash point:** > 200 °C
- **Flammability (solid, gas):** Not highly flammable
- **Auto-ignition temperature:** 335.5 - 400 °C
- **Decomposition temperature:** > 300 °C
- **Explosive properties:** The substance does not contain any chemical groups associated with explosive properties.
- **Oxidising properties:** The substance does not contain any chemical groups associated with oxidising properties.
- **Vapour pressure at 25 °C:** 6 Pa
- **Density**

  Relative density at 20 °C: 1.0 - 1.1
- **Evaporation rate:** Not determined
- **Solubility(ies)**

  In water at 20 °C: 0.9 mg/L (as a complex mixture)
- **Partition coefficient: n-octanol/water:** 3,0 - 6,2 Log Kow
- **Viscosity Dynamic:** Not applicable (solid)

- **Other information** No other data

SECTION 10: STABILITY AND REACTIVITY

- **Reactivity** No data from specific reactivity tests are available for this product or this class of product.
- **Chemical stability**
  Product stable under storage and handling conditions according to specifications (see section 7).
- **Possibility of hazardous reactions**
  Dust may ignite on contact with electrostatic discharge or exposure to flamme or other sources of ignition.
- **Conditions to avoid**
  Avoid dust formation when handling the product.
  Keep away from heat and sources of ignition.
- **Incompatible materials** No data available.
- **Hazardous decomposition products** No dangerous decomposition products known.
- **Additional information:**
  The product is susceptible to compaction and oxidation during prolonged storage at a temperature above 30°C.

SECTION 11: TOXICOLOGICAL INFORMATION

- **Information on toxicological effects**
  This substance belongs to the chemical category of rosin and its salts (rosin/hydrogenated rosin/rosin, formaldehyde adduct/oligomers rosin/ disproportionated rosin). Experimental data are not available or limited for the substance; information from one or several other members of the category is thus presented (properties may be predicted by interpolation to structurally related substances).
  - **Acute toxicity** Based on available data, the classification criteria are not met.
  - **LD_{50}/LC_{50} values relevant for classification:**
    By analogy with structurally related substances, the LD_{50} (dermal and oral, rat) are expected to be greater than 2000 mg/kg.
  - **Skin corrosion/irritation:**
    It can be concluded from skin irritation studies on rabbit (according to guideline OECD 404) carried out on similar substances that the classification criteria are not met for this substance.
  - **Serious eye damage/irritation:**
    It can be concluded from eye irritation studies on rabbit (OECD 405) carried out with similar substances that the classification criteria are not met for this substance.
    Fine particles and powder may cause eye irritation by mechanical effect.
  - **Skin sensitisation:**
    May cause an allergic skin reaction.
    No sensitizing effect observed in tests conducted according to OECD 406 (GPMT) and OECD 429 (LLNA) methods on rosin. These results differ from the harmonised classification defined in Annex VI of the Regulation (EC) n° 1272/2008.
  - **Mutagenicity/genotoxicity:**
    No mutagenicity was observed with structurally related substances in several in vitro assays:
    - in bacteria (Ames test carried out according to OECD guideline 471) ;
    - in mammalian cells (mouse lymphoma – test carried out according to OECD guideline 476). No genotoxicity was observed in vitro with structurally related substances:
    -

SECTION 11: TOXICOLOGICAL INFORMATION (continue)

- in a chromosome aberration test in human lymphocytes (test carried out according to OECD guideline 473)

- **Carcinogenicity:**
  The substance is not expected to be carcinogenic based on available data on structurally related substances: no mutagenic effects observed and no hyperplasia or pre-neoplastic lesions noted in repeated dose toxicity studies.
- **Reproductive toxicity:** The potential for a structurally related substance to cause reproductive and/or developmental toxicity was evaluated using a reproductive and developmental oral screening study on rats conducted according to OECD guideline 421.
  Effects on fertility:
  At 10,000 ppm in the diet there were no test material-related effects on mating performance, male and female fertility indices, or length of gestation and no gross or microscopic effects on reproductive organs of either sex. The mean number of implant sites per pregnancy was slightly reduced resulting in a slight reduction in litter size. Mean litter and pup weights were also slightly reduced. The effect on implantation, litter size and fetal weight may be secondary to the effects on decreased food intake and subsequent lower weight gain observed in the adult females. A NOAEL of 3000 ppm was derived from this study. In repeat-exposure studies, there were no gross or microscopic changes in reproductive organs of male or female rats or dogs exposed to 1% of the test material ad libitum in the diet for up to two years.
  Effects on development: Food consumption was significantly reduced at 10000 ppm but not at the 2 lower levels. For dams, no test material- related effects were noted on mean gestation length or the process of parturition at any exposure concentration. Mean litter and pup weights were slightly reduced for the 10000 ppm dams. There were no obvious external malformations noted in the pups at any of the dose levels in this study. The NOAEL was 3000 ppm.

  The results of this test did not suggest any evidence of toxicity to reproduction and development.
- **Specific target organ toxicity - single exposure:**
  No specific target organ toxicity was observed in the LD_{50} determination studies.
- **Specific target organ toxicity - repeated exposure:**
  Information is available on the subchronic and chronic oral toxicity of structurally relatec substances (90 days and 2 years studies on rat and dogs) and among those data, 2 studies form the basis of this weight of evidence assessment. Although the studies were performed prior to the standardisation of testing protocols and the introduction of GLP, when supported by other results (including three additional subchronic studies and eight chronic studies conducted using rats or dogs) the results can be used as the basis of a weight evidence assessment of the oral repeated dose toxicity of the category members. No adverse systemic effects were identified in rats from either study following administration at levels up to 5% in the diet, however reduced food consumption limits the usefulness of this NOAEL. In contrast, no problems with palatability were apparent in the 1% groups; this value will be used as the NOAEL for the repeated dose toxicity. [L SEP]
  NOAEL used for DNEL derivation (section 8): 400 mg/kg bw/d.
- **Aspiration hazard:** Not applicable (solid).
- **Additional toxicological information:**
  Prolonged or repeated exposure to vapours/fumes generated by heating this product may cause respiratory irritation with throat discomfort, coughing or breathing difficulty.

SECTION 12: ECOLOGICAL INFORMATION

- **Aquatic toxicity**

  This substance belongs to the chemical category of rosin and its salts (rosin/hydrogenated rosin/rosin, formaldehyde adduct/oligomers rosin/ disproportionated rosin). Experimental data are not available or limited for the substance; information from one or several other members of the category is thus presented (properties may be predicted by interpolation to structurally related substances).Short-term aquatic toxicity values were determined in tests conducted with Water Accomodated Fractions (WAF). Loading rates of the tested item are well higher than the water solubility. LL_{50} and EL_{50} similar to LC_{50} and EC_{50} are obtained by this method.

  Studies carried out on similar substances:

  LL_{50} (96 h), fish (Pimephales promelas): 1.7 mg/L (nominal concentration – OECD 203)

  EL_{50} (48 h), daphnia (Daphnia magna): 1.6 mg/L (nominal concentration - OECD 202)

  EL_{50} (72 h), alga (Pseudokirchneriella subcapitata): 39.6 mg/L (based on growth rate – OCDE 201)

  EL_{50} (72 h), alga (Pseudokirchneriella subcapitata): 16.6mg/L (based on biomass – OCDE 201)

  - **Toxicity to aquatic microorganisms:**

  No inhibition effects were observed on activated sludge (OECD 209) with a structurally related substance (rosin) tested at 10000 mg/L.

- **Persistence and degradability**

  By analogy with structurally related substances for which results of ready biodegradability assays (OECD 301 B – CO2 evolution and OECD 301 D - Closed bottle test) are available, the substance is considered to be ready biodegradable.

- **Bioaccumulative potential**

  For structurally similar substances: measured BCF (bioconcentration factor) values range from <25 to 130 for fish, calculated BCF values range from 3.162 to 56.23 L/kg ww and calcula BAF (Bioaccumulation factor) values range from 1.474 to 694000.

- **Mobility in soil** No data available.

- **Results of PBT and vPvB assessment**

  - **PBT:**

    According to Annex XIII of REACH Regulation, the substance is not considered to be Persistent, Bioaccumulative and Toxic.

  - **vPvB:**

    According to Annex XIII of REACH Regulation, the substance is not considered to be very Persistent and very Bioaccumulative.

- **Other adverse effects** No data available.

SECTION 13: DISPOSAL CONSIDERATION

- **Waste treatment methods** National and regional regulations have to be adhered to.
  - **Recommendation:** The product has to be disposed of in an authorised incinerator, according to regulation.
  - **Uncleaned packaging**
  - **Recommendation:** Packaging has to be sent to an authorised waste treatment facility, for recycling or disposal.

SECTION 14: TRANSPORT INFORMATION	
○ **UN Number**	Not classified as a dangerous good under transport regulation.
○ **UN proper shipping name**	Not classified as a dangerous good under transport regulation.
○ **Transport hazard class(es)**	Not applicable.
○ **Packing group**	Not applicable.
○ **Environmental hazards**	Not classified as a dangerous good under transport regulation.
○ **Special precautions for user**	Not applicable.
○ **Transport in bulk according to Annex II of Marpol and the IBC Code**	Not applicable.
○ **UN "Model Regulation"**	Void

SECTION 15: REGULATORY INFORMATION

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

Directive 2012/18/EU:

The product does not fulfill the criteria for the categories of Annex I part 2.

Regulation (EC) No 1907/2006 (REACH):

The product does not contain any of the substances included in the following lists

- Annex XIV (authorisation) / substances of very high concern (SVHC)
- Annex XVII (restrictions)

▪ **National regulations:** Occupational disease – only applicable to France. See French SDS version

SECTION 16: OTHER INFORMATION

Information provided in this safety data sheet is based on our experience and present knowledge. It is a description of safety requirements and data given on the product and cannot be considered as specifications. They shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing technical data sheet:** Commercial
- **Abbreviations and acronyms:**

Skin Sens. 1: Skin sensitisation, Category 1
bw: body weight
CLP: Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging
dw: dry weight
EC: European Commission
EC_{50}: Concentration which leads to a 50 % reduction in treated organism responses compared to untreated organism responses (algae) or concentration which causes effects to 50 % of the tested organisms (daphnids)
EL_{50}: Loading rate which leads to a 50% reduction in treated organism responses compared to untreated organism responses (tests on algae) or concentration which causes effects to 50 % of the tested organisms (daphnids)
LC_{50}: Lethal concentration for 50 % of exposed animals
LD_{50}: Lethal dose for 50 % of animals exposed by oral or dermal route
LL_{50}: Median lethal loading rate (lethal level for 50% of treated animals)
NOAEL: No Observed Adverse Effect Level
NOEC: No observed effect concentration
OECD: Guidelines from the Organisation for Economic Co-operation and Development
PBT: Persistent, Bioaccumulating and Toxic substance.
ppm : parts per million
vPvB: very Persistent and very Bioaccumulating substance.

- **Sources:**
  Literature and company data
  REACH dossier data
- **Modified data compared to the previous version:**
- No one

01 October 20119
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