reslin®
linseed oil resin 100% biodegradable

# Reslin Technical Data sheet

(Preliminary data, to be completed)

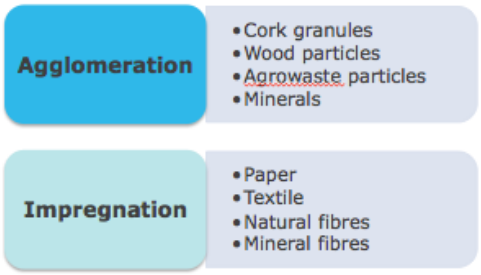
## General description

Reslin is a thermosetting binder entirely derived from renewable resources. It is composed of 2 components, a resin (Component A, Reslin oil) and a hardener (Component B, Reslin activator). depending on the hardener type, by mixing the 2 liquids in the right proportion, the system cures to a flexible to semi-rigid and slightly resilient material. Both components of Reslin are labeled as non-toxic and non-hazardous to human and environment. Reslin is assessed as suited for products aiming at a Cradle-to-Cradle Gold Certificate.

Unicraft proposes different hardener types, all bio-based and non-toxic. Properties may vary depending on the hardener used in combination with the Component A.

## How and where to use it?

Reslin can be used in two ways: to agglomerate particles and granules and to impregnate fibrous materials.




Reslin is best used in heat-curing processes, with or without pressure. When adequately cured, Reslin gives a water-resistant bonding, both in cold and boiling water. Reslin is also resistant to most chemicals: acids, aromatic hydrocarbons, most organic solvents. Reslin is only sensitive to strong alkali.

## Typical curing conditions

| Temperature | Without pressure | With pressure |
|---|---|---|
| **Room temperature** | 1-2 days | Unknown |
| **90°C** | 30-45’ | 20-30’ |
| **120°C** | 15-30’ | 10-20’ |
| **150°C** | 5-10’ | 5-10’ |
| **200°C** | <5’ | <5’ |

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## Properties

**Resin: Reslin oil, Component A**

| Chemistry | Epoxidised Vegetable oil |
|---|---|
| Appearance | Pale yellow oil |
| Density @ 25°C | 1.050 g/l |
| Oxyrane value | >8,0% |
| Epoxy equivalent weight | 175-185 |
| Viscosity @ 25°C | 1.100 – 1.200 mPa.s |

**Hardener: Reslin activator, Component B**

| Chemistry | Mix of organic acids and esters |
|---|---|
| Appearance | Pale yellow liquid |
| Density @ 25°C | 1.300 -1.400 g/l |
| Flash point (Pansky-Martens) | >85°C |
| Viscosity @ 25°C | 150.000 mPa.s |
| Viscosity @ 30°C | 100.000 mPa |
| Viscosity @ 35°C | 50.000 mPa.s |
| Viscosity @ 40°C | 20.000 mPa |

## Technical data

| Properties | Value range |
|---|---|
| Hardness, shore A | 50-95 |
| Hardness, shore D | 10-50 |
| Tensile strength | 1-7 MPa |
| Tensile modulus | 2-30 MPa |
| Tensile strain | 70-135% |

## Hazard summary

Reslin is a non-hazardous and non-toxic to humans, animals, plants and aquatic systems

Depending on the hardener type:

(TKW types)

H318 Causes serious eye damage.

Personal protective equipment (gloves and safety glasses) is recommend, as well as a good ventilation

## Storage

When stored at room temperature in dry conditions, both components have a shelf life of >6 months. It is essential to prevent moisture ingress in both Component A (Resin) and Component B (Hardener).

Component A (resin) may winterize when stored at lower temperatures (<15°C). However, this process is reversible through warming at 30-40°C, without affecting the properties.

Component B (hardener) may crystallize during storage. When so, heating component B again at 120-125°C until complete disappearance of crystals is necessary before use. This process may be repeated several times without affecting the properties.

(March 2024)