



## Rosin

### Overview

Ingevity's rosin is a bio-based product separated mainly from pine trees using our biorefinery process. Our rosin contains a mixture of rosin acids isomers: abietic, dehydroabietic, palustric, neoabietic, isopimaric, and others. Aside from rosin acids, the tall oil rosin can contain up to 6% of unsaponifiable matters. Ingevity is now one of the leading producers of tall oil rosin in the world. Ingevity has three manufacturing locations in North America that produce two types of tall oil rosin products: regular rosin (contains mainly abietic acid) and stabilized rosin (contains mainly dehydroabietic acid).

### Uses and applications

Rosin can be used as a paper sizing agent to increase the wet strength of the paper. It is also used in emulsion polymerization to produce latex and rubber products, as well as ink resins for coatings and printing inks, and adhesive tackifier resins for many applications. Rosin has recently been found in other industrial applications such as agriculture chemicals and biopolymer fields due to its unique properties and bio-based nature.

### Physical/chemical properties

Physical state:	Solid.
Color:	Light yellow to amber (depends on the type or grade of rosin).
Odor:	Characteristic (slight).
Flash point:	187°C (closed cup).
Explosive properties:	Non-explosive.

### Health effects

The information contained in the table below may be useful to someone handling the concentrated substance such as a manufacturer or transporter. Consumers are not likely to come in contact with the concentrated substance. The data, while verifiable, are not intended to be comprehensive nor replace the data found in the safety data sheet (SDS).

Effect Assessment	Result
Acute toxicity	Virtually nontoxic.
Irritation	Not irritating to eyes and skin.
Sensitization	May cause an allergic skin reaction.

### Environmental effects

The information contained in the table below is intended to provide brief and general information of this product's environmental impact.

Effect Assessment	Result
Aquatic toxicity	Acutely toxic to aquatic life.



Degradability	Readily biodegradable.
Bioaccumulation potential	Low bioaccumulation potential.

### Exposure and risk management recommendations

**Workplace exposure:** Exposure can occur either in a rosin manufacturing facility or in the various industrial or manufacturing facilities that use rosin. Those working with rosin in manufacturing operations could be exposed during maintenance, sampling, testing, or other procedures. Each manufacturing facility should have a thorough training program for employees and appropriate work processes, as well as safety equipment in place to limit unnecessary exposure. Safety showers and eye-wash stations should be accessible nearby. Workers should follow the recommended safety measures in the safety data sheet (SDS).

**Consumer exposure:** Rosin is used in many industries such as adhesives and inks. The concentration of rosin in consumer products is generally low. However, carefully read and follow the instructions given on product labels for proper use.

**Environmental exposure:** Rosin is readily biodegradable and will therefore be degraded within the wastewater treatment process. Though the substance is classified as acutely toxic to aquatic organisms, a risk for the environment is not identified since exposure of surface waters is expected to be negligible due to the rapid degradation. Further, rosin does not accumulate in the food chain. Conclusively, all identified uses are safe for the environment based on the scientific facts summarized above and when carried out in compliance with recommended risk management measures and applicable regulations.

### Conclusion

Under conditions of normal use by qualified personnel, Ingevity's rosin products are not expected to pose a significant risk to human health or the environment.