Product Safety Assessment

TAMOL™ and OROTAN™ Dispersants
For industrial and household paints and coatings and industrial applications (pigment and dye, rubber, paints and adhesives)


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Names
- TAMOL™ Dispersants (North America)
- OROTAN™ Dispersants (Other markets)
- TAMOL 731A Dispersant
- TAMOL 2002 Dispersant
- TAMOL 2011 Dispersant
- TAMOL 1254 Dispersant
- TAMOL 901 Dispersant
- TAMOL L Conc Dispersant
- TAMOL SN Dispersant
- TAMOL 851 Dispersant
- TAMOL 960 Dispersant
- TAMOL 165A Dispersant
- TAMOL 731DP Dispersant
- TAMOL 681 Dispersant
- OROTAN 851 Dispersant
- OROTAN 731A Dispersant
- OROTAN 2002 Dispersant
- OROTAN 2011 Dispersant
- OROTAN 681 Dispersant
- OROTAN 165A Dispersant
- OROTAN 1254 Dispersant
- OROTAN 901 Dispersant
- OROTAN L Conc Dispersant
- OROTAN SN Dispersant
- OROTAN 960 Dispersant
- OROTAN 731DP Dispersant

Product Overview
- TAMOL™ and OROTAN™ dispersants are designed for industrial and household paints and coatings and a variety of industrial applications (pigment and dye, rubber, paints, water treatment and adhesives). Most products are manufactured as clear to hazy liquids that can be milky-white or yellow to amber in color, with a mild odor. The only exceptions are TAMOL L Conc and OROTAN L Conc which are dark brown liquids, TAMOL SN and OROTAN SN which are beige-colored solids, and TAMOL 731 DP and OROTAN DP which are off-white solids. For further details, see Product Description.
- TAMOL and OROTAN dispersants are added to waterborne architectural and industrial paints and coatings to help stabilize dispersed pigments and to improve performance, viscosity, and color acceptance. TAMOL and OROTAN dispersants are also used...
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in production of textiles, paper, synthetic rubber, agricultural chemicals, leather, clay concrete and grout. For further details, see Product Uses.

- TAMOL™ and OROTAN™ dispersants are for commercial use. Worker exposure is possible during manufacture, transport, or formulation. Engineering controls and personal protection equipment reduce the potential for exposure. Because these products are used in paints and coatings, individuals could be exposed when using household paint products. Always read the product label carefully prior to use and follow instructions. For further details, see Exposure Potential.
- Contact with the eyes and skin can cause slight irritation. Inhalation of vapor or mist can cause headache and nausea as well as irritation of the nose, throat, and lungs. For further details, see Health Information and request the relevant Safety Data Sheet from the Dow Customer Information Group.
- The polymers in TAMOL and OROTAN dispersants are copolymers of acrylic, methacrylic or maleic acids and acrylic esters/olefins. They are nonvolatile and range from dilutable in water to water soluble.
- The polymers in TAMOL and OROTAN dispersants are expected to slowly degrade in the environment. Due to their high molecular weight, the polymers are not expected to accumulate in the food chain. The polymers range from practically nontoxic to slightly toxic to fish and other aquatic organisms on an acute basis. For further details, see Environmental Information.
- These products are stable under recommended storage and normal use conditions. For further details, see Physical Hazard Information.

Manufacture of Product

- **Locations** – The Dow Chemical Company and its global affiliates manufacture TAMOL™ and OROTAN™ dispersants in various global locations.
- **Process** – TAMOL and OROTAN dispersants are produced in batch operations using proprietary methods and technology.

Product Description

TAMOL™ and OROTAN™ dispersants are designed for architectural and industrial paints and coatings and a variety of industrial applications (pigment and dye, rubber, paints, water treatment and adhesives). TAMOL and OROTAN dispersants are blends of polymers. Most products are manufactured as clear to hazy liquids that can be milky-white or yellow to amber in color, with a range of 25 to 42% solids and a mild odor. The only exceptions are TAMOL L Conc and OROTAN L Conc which are dark brown liquids, TAMOL SN and OROTAN SN which are beige-colored solids, and TAMOL 731 DP and OROTAN DP which are off-white solids.

Product Uses

TAMOL™ and OROTAN™ dispersants are added to semigloss and gloss paints, including latex and water-based paints to help improve coating performance, viscosity, and color acceptance. They are typically formulated into paints at 0.2 to 5% based on pigment weight.

TAMOL and OROTAN dispersants are also used in production of textiles, paper, synthetic rubber, agricultural chemicals, leather, clay concrete, grout, and water treatment applications.

Exposure Potential

TAMOL™ and OROTAN™ dispersants are used in industrial and household paints and coatings and in a variety of industrial applications (pigment and dye, rubber, paints, water treatment and adhesives). Based on the uses for this product, individuals could be exposed through:

- **Workplace exposure** – Exposure can occur either in a facility that manufactures TAMOL and OROTAN dispersants or in the various industrial or manufacturing facilities that use these dispersants. Those working with TAMOL and OROTAN dispersants 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, ventilation, and safety equipment in place to limit exposure. See Health Information.
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- **Consumer exposure to products containing TAMOL™ and OROTAN™ dispersants** – Dow does not sell TAMOL and OROTAN dispersants for direct consumer use, but these products are added at low levels to industrial and household paints and coatings. Exposure to cured and/or dried product is not considered to present a risk to consumers. The polymers in TAMOL and OROTAN dispersants have a well-established toxicological profile and are safe for normal use. Always read the product label prior to use carefully. See Health Information.

- **Environmental releases** – In the event of a spill, the focus is on containing the spill to prevent contamination of soil, surface water, or groundwater. Spilled material can create slippery conditions. For small spills, TAMOL and OROTAN dispersants should be absorbed with inert materials such as sand. If released, the polymers would initially disperse in water, but will likely be removed in biological wastewater-treatment facilities by adsorption onto biosolids. See Environmental, Health, and Physical Hazard Information.

- **Large release** – Industrial spills or releases are infrequent and generally contained. If a large spill does occur, the products should be captured, collected, and reprocessed or disposed of according to applicable governmental requirements. Use personal protective equipment. Keep spills and cleaning runoff out of municipal sewers and open bodies of water. Spilled material can create slippery conditions. See Environmental, Health, and Physical Hazard Information.

- **In case of fire** – These products are noncombustible, but dried product residue can burn. These products can splatter above 100°C (212°F). Use extinguishing techniques appropriate for the surrounding fire. Keep people away. Firefighters should wear positive-pressure, self-contained breathing apparatus (SCBA) and protective firefighting clothing. Thermal decomposition may yield acrylic monomers. Keep fire water out of waterways and sewers to minimize the potential for environmental damage. Follow emergency procedures carefully. See Environmental, Health, and Physical Hazard Information.

For more information, request the relevant Safety Data Sheet from the [Dow Customer Information Group](#).

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**Health Information**

Health information for TAMOL™ and OROTAN™ dispersants is summarized on the relevant Safety Data Sheets. These materials may also contain minor components or additives that have additional health risks. It is important to note that health risks associated with individual products may vary based on their formulation or intended use. The Safety Data Sheet is the preferred source for specific health information. An overview of health information for TAMOL and OROTAN dispersants appears below.

- **Eye contact** – Direct contact may cause slight eye irritation.

- **Skin contact** – Prolonged or repeated contact may cause slight skin irritation.

- **Ingestion** – These products have very low acute toxicity if swallowed. Harmful effects are not anticipated from swallowing small amounts.

- **Inhalation** – Inhalation of vapor or mist can cause headache, nausea, and irritation of the nose, throat, and lungs.

- **Chronic exposure** – Prolonged or repeated overexposure to dusts or mists can cause lung irritation.

For more information, request the relevant Safety Data Sheet from the [Dow Customer Information Group](#).

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**Environmental Information**

Environmental information for TAMOL™ and OROTAN™ dispersants is summarized on the relevant Safety Data Sheets. These materials may also contain solvents or additives that have additional environmental impact. It is important to note that environmental impact associated with individual products may vary based on their formulation or intended use. The Safety Data Sheet is the preferred source for specific environmental information. An overview of environmental information for TAMOL and OROTAN dispersants appears below.

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The polymers in TAMOL™ and OROTAN™ dispersants are copolymers of acrylic, methacrylic or maleic acids and acrylic esters/olefins. They are nonvolatile and range from dilutable in water to water soluble. If released to the environment, the polymers would initially disperse in water, but eventually bind to soil, suspended particles, or sediments.

Although the polymers are non-biodegradable, they will be expected to degrade slowly in the environment, including degradation by physical action or by exposure to sunlight. The polymers will likely be removed in biological wastewater-treatment facilities by adsorbing onto biosolids. The polymers are not expected to accumulate in the food chain due to their high molecular weight. These polymers range from practically nontoxic (LC$_{50}$/EC$_{50}$ > 100 mg/L in the most sensitive species tested) to slightly toxic (LC$_{50}$/EC$_{50}$ between 10 and 100 mg/L in the most sensitive species tested) to aquatic organisms on an acute basis.

For more information, request the relevant Safety Data Sheet from the Dow Customer Information Group.

Physical Hazard Information

TAMOL™ and OROTAN™ dispersants are stable under recommended storage and normal use conditions. Avoid freezing, as product stability may be affected. Monomer vapors can be released if these products are overheated during processing operations. Avoid temperatures above 230°C (446°F), the onset of polymer decomposition. Thermal decomposition is dependent on time and temperature.

These products are noncombustible, but dried product residue can burn. There are no known materials that are incompatible with these products.

For more information, request the relevant Safety Data Sheet from the Dow Customer Information Group.

Regulatory Information

Regulations may exist that govern the manufacture, sale, transportation, use, and/or disposal of TAMOL™ and OROTAN™ dispersants. These regulations may vary by city, state, country, or geographic region. Information may be found by consulting the relevant Safety Data Sheet, Technical Data Sheet, or Contact Us.

Additional Information

- Request the Safety Data Sheet from the Dow Customer Information Group (www.dow.com/assistance/dowcig.htm)
- Contact Us (www.dow.com/coating/contact)


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References
1 The Dow Chemical Company. TAMOL™ 2002 Dispersant, Material Safety Data Sheet.
2 The Dow Chemical Company. TAMOL™ 851 Dispersant, Material Safety Data Sheet.
3 The Dow Chemical Company. TAMOL™ 681/Offgrade Dispersant, Material Safety Data Sheet.
4 The Dow Chemical Company. TAMOL™ 960 Dispersant, Material Safety Data Sheet.
6 The Dow Chemical Company. TAMOL™ 2002 Dispersant, Technical Safety Data Sheet.
7 The Dow Chemical Company. TAMOL™ 681/Offgrade Dispersant, Technical Safety Data Sheet.
8 The Dow Chemical Company. TAMOL™ 851 Dispersant, Technical Safety Data Sheet.
NOTICES

As part of its 2015 Sustainability Goals, Dow has committed to make publicly available safety assessments for its products globally. This product safety assessment is intended to give general information about the chemical (or categories of chemicals) addressed. It is not intended to provide an in-depth discussion of health and safety information. Additional information is available through the relevant Safety Data Sheet, which should be consulted before use of the chemical. This product safety assessment does not replace required communication documents such as the Safety Data Sheet.

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