Product Safety Assessment

Biocide Blend Products


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Names
- BIOBAN™ Polymer Shielded Technology (PST)
- BIOBAN™ 350 PST antimicrobial
- ROCIMA™ 252 biocide
- ROCIMA™ 350 biocide

Product Overview
- The Dow Chemical Company markets a series of biocide blend products that contain more than one biocide active ingredient under the trade names BIOBAN™ antimicrobial and ROCIMA™ biocide. Dow also sells BIOBAN antimicrobial and ROCIMA biocide that have only one biocide active ingredient. The biocide blend products covered in this Product Safety Assessment (listed above in the Names section) have more than one biocide active ingredient and are supplied as liquids or dispersions with a greyish-white, greenish, yellow-brownish or bluish appearance and mild odor. For further details, see Product Description.
- These biocide blend products are used as preservatives in paints, plasters, and lacquers. For further details, see Product Uses.
- Those working with these biocide blend products in manufacturing operations could be exposed during maintenance, sampling, testing, application, or other procedures. Dow sells these biocide blend products for industrial and professional use only. Dow does not sell these biocide products for direct consumer use, but they may be present at low levels in paints and coatings used by consumers. For further details, see Exposure Potential.
- Eye contact with biocide blend products can cause corneal burns and permanent eye injury. Skin contact can cause severe irritation and sensitization. These products are harmful if swallowed. Inhalation of vapor or mist can cause irritation of the nose, throat, and lungs. These products may contain titanium dioxide, which is classified by the International Agency for Research on Cancer (IARC) as a possible human carcinogen. For further details, see Health Information and the relevant Safety Data Sheet.
- Biocide blend products are not readily biodegradable. However, these products are unlikely to persist in the environment and would be removed from wastewater by biological wastewater-treatment facilities. Biocide blend products have a low risk to accumulate in the food chain and are considered highly toxic to aquatic organisms on an acute basis. For further details, see Environmental Information.
- Biocide blend products are stable at recommended storage and normal use conditions. For further details, see Physical Hazard Information.

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* These products are not registered in all regions or for all applications. Please contact the Dow Microbial Control Business for additional information.

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Manufacture of Product

- **Locations** – The Dow Chemical Company produces these biocide blend products at various global sites. Biocide blend products are not registered for use in all regions. When considering the use of any Dow product in a particular application, review the latest Safety Data Sheet (SDS) and country-specific product label to ensure the intended use is within the scope of approved uses. Please contact the Dow Microbial Control Business for additional information.
- **Process** – Biocide blend products are produced by blending several proprietary active ingredients.

Product Description

The Dow Chemical Company markets a series of biocide blend products that contain more than one biocide active ingredient under the trade names BIOBAN™ antimicrobial and ROCIMA™ biocide. Dow also sells BIOBAN antimicrobial and ROCIMA biocide that have only one biocide active ingredient. The biocide blend products covered in this Product Safety Assessment (listed above in the Names section) have more than one biocide active ingredient and are supplied as flowable liquids or dispersions with a greyish-white, greenish, yellow-brownish or bluish appearance and mild odor.

Product Uses

Biocide blend products* are formulated at low levels into paints, coatings, plasters, lacquers, and varnishes to provide long-term protection against surface growth of molds, algae, and fungi. Always read the product information before use and follow the label/use instructions. For more information about specific use, visit the Dow Microbial website at: [www.dow.com/microbial/index.htm](http://www.dow.com/microbial/index.htm) or contact Dow Microbial Control.

Exposure Potential

Biocide blend products are used in the production of industrial and consumer products. Based on the uses for these products, individuals could be exposed through:

- **Workplace exposure** – Exposure can occur either in facilities that manufacture biocide blend products or in the various industrial or manufacturing facilities that use these products. Biocide blend products are produced, distributed, and stored mainly in closed systems. Those working with biocide blend products in manufacturing operations could be exposed during maintenance, sampling, testing, application, 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.
- **Consumer exposure to products containing blended biocides** – Dow sells these biocide blend products for industrial and professional use only. Dow does not sell biocide blend products for direct consumer use, but these products are formulated at low levels into paints and coatings that may be used by consumers. At such levels, many of the health effects associated with these biocide blends would not be expected to occur. Always read the product information before use and carefully follow label and use instructions. See Health Information.
- **Environmental releases** – Small quantities of these products may be released into the environment if consumer products that contain them are discarded. In the event of a spill, the focus is on containing the spill to prevent contamination of soil, surface water, or groundwater. Small spills should be absorbed with noncombustible materials such as sand or earth. Ensure adequate ventilation. These products are considered highly toxic to aquatic organisms on an acute basis. 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 product should be captured, collected, and reprocessed or disposed of according to applicable governmental requirements. Evacuate personnel to safe areas and use appropriate personal protective equipment. Prevent further leakage or spillage if safe to do so and keep the product from entering drains or water courses. Do not contaminate surface water. Contain spillage and then collect with noncombustible absorbents such as sand, earth, diatomaceous earth, or vermiculite. Sweep up or vacuum spillage and collect in suitable container for disposal. Ensure adequate ventilation. See Environmental, Health, and Physical Hazard Information.
- **In case of fire** – Deny any unnecessary entry into the area and consider the use of unmanned hose holders. Use water spray, dry chemical or carbon-dioxide extinguishers, or foam to fight the fire. Firefighters should wear positive-pressure, self-contained

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breathing apparatus (SCBA) and protective firefighting clothing. Do not allow run-off from firefighting to enter drains or water courses. Collect contaminated fire extinguishing water separately and do not discharge into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. Cool containers and tanks with water spray. Follow emergency procedures outlined in the Safety Data Sheet carefully. See Environmental, Health, and Physical Hazard Information.

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

Health Information

Health information for biocide blend products is summarized on the relevant Safety Data Sheets. Biocide blend products may 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 blended biocides appears below.

**Eye contact** – Contact can cause corneal burns and permanent eye injury.

**Skin contact** – These products are harmful if they come in contact with the skin. Contact can cause severe irritation and sensitization.

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

**Ingestion** – These products are harmful if swallowed.

**Other** – Some of these products may contain titanium dioxide, which is classified by the International Agency for Research on Cancer (IARC) as a possible human carcinogen.

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

Environmental Information

Environmental information for biocide blend products is summarized on the relevant Safety Data Sheets. Biocide blend products may also contain solvents or additives that have additional environmental impact. It is important to note that the 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 biocide blend products appears below.

Biocide blend products are unlikely to persist in the environment. Although these products are not considered readily biodegradable according to stringent Organisation for Economic Co-operation and Development (OECD) standards, they will likely degrade slowly under environmental conditions and would be removed from wastewater by biological wastewater-treatment facilities. Biocide blend products have a low risk to accumulate in the food chain (bioconcentrate) and are highly toxic (EC50/LC50 less than 1.0 mg/L) 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

Biocide blend products are stable at recommended storage and normal use conditions. These products should be stored in tightly sealed original containers, preferably at room temperature. Keep these products from freezing and protect them from light and heat.

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 biocide blend products. These regulations may vary by city, state, country, or geographic region. Information may be found by consulting the relevant Safety Data Sheet or Contact Us.

Additional Information
- Request the relevant Safety Data Sheet from the Dow Customer Information Group (www.dow.com/assistance/dowcig.htm)
- Contact Us (www.dow.com/microbial/contact/index.htm)
- ROCIMA™ 350 Biocide [Technical Data Sheet], The Dow Chemical Company (www.dow.com/microbial/applications/ma_pac_dry_film_protection.htm)

For more business information about biocide blend products, visit the Dow Microbial Control business web site at www.dow.com/microbial/index.htm.

References
1 The Dow Chemical Company. BIOBAN™ 350 Polymer Shielded Technology Product Information. Form No. 253-03067.
2 The Dow Chemical Company. ROCIMA™ 252 Biocide Product Information. Form No. 253-02817.
3 The Dow Chemical Company. ROCIMA™ 350 Biocide Product Information. Form No. 253-02657.
4 The Dow Chemical Company. ROCIMA™ 350 Biocide Material 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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