Product Safety Assessment

**TRITON™ BG and CG Alkyl Polyglucoside Surfactants**


Select a Topic:

- Names
- Product Overview
- Manufacture of Product
- Product Description
- Product Uses
- Exposure Potential
- Health Information
- Environmental Information
- Physical Hazard Information
- Regulatory Information
- Additional Information
- References

**Names**

- CAS No. 68515-73-1
- D-Glucopyranose, oligomeric, decyl octyl glycoside
- Alkyl (C₈–C₁₀) polyglycoside
- TRITON™ BG-10 surfactant
- TRITON CG-50 surfactant
- TRITON CG-110 surfactant
- Alkyl polyglucoside (APG)

**Product Overview**

- TRITON™ BG and CG alkyl polyglucoside surfactants are mild, nonionic, commercial-grade products with good detergency and wetting properties. They are liquids formulated from alkyl polyglucosides.¹ For further details, see Product Description.
- TRITON BG and CG alkyl polyglucoside surfactants are formulated into household and industrial cleaners. Some examples are detergents, metal cleaners, paint strippers, glass cleaners, and personal-care products.²³ For further details, see Product Uses.
- Worker exposure is possible at a facility that manufactures TRITON surfactants or formulates them into cleaning products. Consumers may use cleaners, detergents, or personal-care products containing these surfactants.⁴⁵ For further details, see Exposure Potential.
- Eye contact with alkyl polyglucoside surfactants in the industrial setting may cause severe irritation with corneal injury, possibly resulting in permanent impairment of vision, even blindness. Brief skin contact may cause slight irritation with local redness. Inhalation of surfactant mist may cause irritation of the nose and throat.⁶⁷ For further details, see Health Information.
- TRITON BG and CG alkyl polyglucoside surfactants are soluble in water and when introduced, will have a tendency to remain in water. Because these compounds are readily biodegradable, they will be removed from water and soil environments, including sewage treatment plants. They are practically non-toxic to fish and other aquatic organisms on an acute basis.⁸⁹ For further details, see Environmental Information.
- TRITON BG and CG alkyl polyglucoside surfactants are thermally stable under recommended storage and use conditions. Exposure to elevated temperatures can cause some components of these products to decompose. Avoid contact with strong acids, strong bases, strong oxidizers, and strong reducing agents. Spilled surfactant is a slipping hazard.¹⁰¹¹ For further details, see Physical Hazard Information.

**Back to top**

®™Trademark of The Dow Chemical Company (“Dow”) or an affiliated company of Dow
Manufacture of Product

- **Capacity** – TRITON™ alkyl polyglucoside surfactants are produced by Dow partner facilities in North America, Europe, and China.
- **Process** – TRITON alkyl polyglucoside surfactants are made from naturally occurring sugars (e.g., corn starch) and detergent alcohols. The alcohols are produced from coconut and palm-kernel oils.

Product Description

TRITON™ BG and CG alkyl polyglucoside surfactants are mild, nonionic, commercial-grade products with good detergency and wetting properties. These formulations are alkyl polyglucoside-based liquids that are soluble in highly alkaline solutions, providing excellent detergency, easy rinsing, and low streaking and filming.

Product Uses

TRITON™ BG and CG alkyl polyglucoside surfactants are used in household, industrial, and institutional detergent formulations where high, stable foam is required, or where highly alkaline concentrations are necessary (for example, in formulations that contain bleach or ammonia). TRITON alkyl polyglucoside surfactants are used in the following applications:

- **TRITON BG-10 surfactant** – bottle washing, metal cleaners, highly alkaline detergents, paint strippers, aluminum brighteners, personal-care products
- **TRITON CG-50 surfactant** – glass cleaners, highly alkaline detergents, hard-surface cleaners, bathroom cleaners, dishwashing and rinse aids, hand dishwashing detergents, personal-care products
- **TRITON CG-110 surfactant** – glass cleaners, highly alkaline detergents, hard-surface cleaners, bathroom cleaners, dishwashing and rinse aids, hand dishwashing detergents, personal-care products

Exposure Potential

TRITON™ BG and CG alkyl polyglucoside surfactants are used in the formulation of industrial and consumer products. Based on these uses, the public could be exposed through:

- **Workplace exposure** – Exposure can occur in a facility that manufactures TRITON BG and CG alkyl polyglucoside surfactants or in the various industrial or manufacturing facilities that formulate and use these products. Occupational exposure in manufacturing could occur during maintenance, sampling, testing, or other procedures. Each facility should have a thorough training program for employees and appropriate work processes and safety equipment in place to limit exposure. See Health Information.
- **Consumer exposure to products containing TRITON BG and CG alkyl polyglucoside surfactants** – TRITON alkyl polyglucoside surfactants are not sold for direct consumer use. However, they are formulated into hard-surface cleaners, laundry detergents, and other products; the use of which may present potential for consumer exposure. Read product information before use and follow the label instructions. See Health Information.
- **Environmental releases** – In the event of a spill, the focus is on containing the spill to prevent contamination of soil and surface or ground water. Do not use water for clean up. Absorb small spills with sand or dirt. Collect in suitable and properly labeled containers. The components in TRITON BG and CG alkyl polyglucoside surfactants are soluble in water and have low volatility. Once introduced to water, these surfactants will remain in water. Because

®Trademark of The Dow Chemical Company (“Dow”) or an affiliated company of Dow
these compounds are readily biodegradable, they will be removed from water and soil environments, including sewage treatment plants. These products are practically non-toxic to aquatic organisms. See Environmental, Health, and Physical Hazard Information.

- **Large release** – Industrial spills or releases are infrequent and generally contained. If a large spill does occur, evacuate the area. Keep upwind of the spill and ventilate the area. Only trained and properly protected personnel must be involved in clean-up operations. Spilled material may cause a slipping hazard. Use appropriate safety equipment. See Environmental, Health, and Physical Hazard Information.

- **In case of fire** – Keep people away. Isolate the fire and deny unnecessary entry. These products will not burn until the water has evaporated, leaving a combustible residue. To extinguish residues, use water fog, dry-chemical or carbon-dioxide extinguishers, or foam. A direct water stream may spread the fire. Firefighters should wear positive-pressure, self-contained breathing apparatus (SCBA) and protective firefighting clothing. Follow emergency procedures carefully. See Environmental, Health, and Physical Hazard Information.

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

**Health Information**

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

**Eye contact** – Eye contact may cause severe irritation with corneal injury, possibly resulting in permanent impairment of vision, even blindness. Chemical burns to the eye may occur.

**Skin contact** – Brief skin contact may cause slight irritation with local redness. Drying and flaking of the skin is possible. Prolonged skin contact is unlikely to result in absorption of harmful amounts.

**Inhalation** – Inhalation of product mist may cause irritation to the nose and throat (upper respiratory tract).

**Ingestion** – These materials have low toxicity if swallowed. Swallowing small amounts incidental to normal handling operations is not likely to cause injury. However, swallowing larger amounts may cause injury.

**Effects of repeated exposure** – Based on available data for similar material, repeated exposures are not anticipated to cause significant adverse effects.

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

**Environmental Information**

TRITON™ BG and CG alkyl polyglucoside surfactants are nonvolatile (do not evaporate), water-soluble substances. If released to the environment, these substances tend to dissolve and remain in water. Because these surfactants are readily biodegradable, they will be removed from water and soil environments, including sewage treatment plants. These surfactants are not likely to
accumulate in the food chain (low bioconcentration potential). They are practically non-toxic to fish and other aquatic organisms on an acute basis.

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

Physical Hazard Information

TRITON™ BG and CG alkyl polyglucoside surfactants are thermally stable at recommended storage and use temperatures. Exposure to elevated temperatures can cause these products to decompose. Products should be stored under nitrogen to avoid degradation. To avoid discoloration, do not store in copper, brass, bronze, zinc, or galvanized iron. Avoid contact with strong acids, strong bases, strong oxidizers, and strong reducers.

Spilled surfactant can be a slipping hazard.

For more information, request the 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 TRITON™ BG and CG alkyl polyglucoside surfactants. 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/surfactants/contact/index.htm)
- TRITON™ BG-10 Surfactant, Technical Data Sheet, The Dow Chemical Company, Form No. 119-01866 (www.dow.com/surfactants/products/alkyl_po.htm)

For more business information about TRITON surfactants, visit the Dow Surfactants web site at www.dow.com/surfactants/index.htm.
References

1 Dow Surfactants – Alkyl Polyglucosides web page
(http://www.dow.com/surfactants/products/alkyl_po.htm)

2 TRITON™ BG-10 Surfactant, Technical Data Sheet, The Dow Chemical Company, Form No.

3 TRITON™ CG-110 Surfactant, Technical Data Sheet, The Dow Chemical Company, Form No.

4 TRITON BG-10 Surfactant Material Safety Data Sheet, The Dow Chemical Company, June 19,

5 TRITON CG-110 Surfactant Material Safety Data Sheet, The Dow Chemical Company, July 6,
2009, page 3.

6 TRITON BG-10 Surfactant Material Safety Data Sheet, The Dow Chemical Company, June 19,

7 TRITON CG-110 Surfactant Material Safety Data Sheet, The Dow Chemical Company, July 6,
2009, pages 1–2 and 4–5.

8 TRITON BG-10 Surfactant Material Safety Data Sheet, The Dow Chemical Company, June 19,

9 TRITON CG-110 Surfactant Material Safety Data Sheet, The Dow Chemical Company, July 6,
2009, page 5.

10 TRITON BG-10 Surfactant Material Safety Data Sheet, The Dow Chemical Company, June 19,

11 TRITON CG-110 Surfactant Material Safety Data Sheet, The Dow Chemical Company, July 6,
2009, pages 1 and 5.

Marketing Research Report, Chemical Economics Handbook, SRI Consulting, August 2007,
page 43.

13 Dow Surfactants – Alkyl Polyglucosides web page:

14 Dow Surfactants – Applications web page
(http://www.dow.com/surfactants/applications/index.htm)

15 TRITON BG-10 Surfactant, Technical Data Sheet, The Dow Chemical Company, Form No.

16 TRITON CG-110 Surfactant, Technical Data Sheet, The Dow Chemical Company, Form No.

17 TRITON CG-50 Surfactant, Technical Data Sheet, The Dow Chemical Company, Form No.
119-02235, page 1.

18 TRITON BG-10 Surfactant Material Safety Data Sheet, The Dow Chemical Company, June 19,
2008, pages 1, 2–3 and 5.

19 TRITON CG-110 Surfactant Material Safety Data Sheet, The Dow Chemical Company, July 6,
2009, pages 1, 2–3 and 5.

20 TRITON BG-10 Surfactant Material Safety Data Sheet, The Dow Chemical Company, June 19,

21 TRITON CG-110 Surfactant Material Safety Data Sheet, The Dow Chemical Company, July 6,
2009, pages 1–2 and 4–5.

22 TRITON BG-10 Surfactant Material Safety Data Sheet, The Dow Chemical Company, June 19,

23 TRITON CG-110 Surfactant Material Safety Data Sheet, The Dow Chemical Company, July 6,
2009, page 5.

24 TRITON BG-10 Surfactant Material Safety Data Sheet, The Dow Chemical Company, June 19,

25 TRITON CG-110 Surfactant Material Safety Data Sheet, The Dow Chemical Company, July 6,
2009, pages 1 and 4.
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.

The information herein is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will Dow be responsible for damages of any nature whatsoever resulting from the use of or reliance upon the information herein or the product to which that information refers.

Nothing contained herein is to be construed as a recommendation to use any product, process, equipment or formulation in conflict with any patent, and Dow makes no representation or warranty, express or implied, that the use thereof will not infringe any patent.

NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR THE PRODUCT TO WHICH INFORMATION REFERS.

Dow makes no commitment to update or correct any information that appears on the Internet or on its World-Wide Web server. The information contained in this document is supplemental to the Internet Disclaimer, www.dow.com/homepage/term.asp.

Back to top

Form No. 233-00797-MM-0411