

PRODUCT SAFETY SUMMARY: DISPERSE BLUE 077

This Product Safety Summary is intended to provide a general description of certain Huntsman chemical substances and products containing the chemical substance(s). The information in this Summary is not intended to replace the information included on the Safety Data Sheet (SDS), Product Safety Label, and other safe use and handling literature for the chemical substance(s).

Chemical Identity:

Name	Other Identifiers
Disperse Blue 077	1,8-dihydroxy-4-nitro-5-(phenylamino)anthraquinone

General Product Overview:

Disperse Blue 077, a textile dye is sold by Huntsman for industrial downstream users only but may also be reformulated by downstream users into products used by professionals and end-use consumer.

Disperse Blue 077 has an outstanding wash and contact fastness. It also has properties such as wet fastness, excellent perspiration, water fastness, and excellent fastness to dry heat.

Applications and Uses:

Disperse Blue 077 is used in textile treatment products, dyes and leather treatment products and used for the manufacture of textile, leather or fur. Disperse Blue 077 is suitable for dyeing all cellulosic fabrics by the cold pad batch process and all conventional continuous dyeing processes.

Physical and Chemical Properties:

Disperse Blue 077 is a black powder.

Certain physical/chemical properties specific to Disperse Blue 077 are summarized below:

Physical/Chemical Property	Result
Molecular weight	376.3 g/mol
Melting point	>230 °C
Boiling point	No boiling point detected (Decomposition observed at 230 °C)
Relative density	1.496 at 20 °C
Partition coefficient (Log Kow)	6.9 at 20 °C
Water solubility	0.85 µg/L at 20 °C
Flammability	Not flammable
Explosiveness	Non-explosive
Oxidizing property	Non-oxidizing (does not cause or intensify fire or explosion)

Additional physical and chemical property information is available on the product Safety Data Sheet (SDS), which can be requested at SDS@huntsman.com.

Human Health Information:

The probability of experiencing health effects associated with exposure to Disperse Blue 077 is controlled, provided the recommendations stated in the Safety Data Sheet are enforced. Adverse health effects are subject to dose level, route, and duration of exposure. Disperse Blue 077 is classified as Skin sensitization - category 1A and Eye irritation – category 2 under the US Globally Harmonized System (US GHS) for Hazard Communication, so if exposure occurs an individual's susceptibility should also be considered.

Different regulatory classification criteria apply in different geographic regions. These different criteria may result in different human health regulatory classifications for the same product in different geographic regions. Specific regulatory classification information is contained in the Safety Data Sheet for each product in use in a specific geographic region. The acute and chronic health effects information set forth below is based on US GHS.

All instructions found on the packaging should be followed. Disperse Blue 077 is safe when used appropriately. The uses identified for the substance have been assessed as safe under several regulatory programs.

Summary- Toxicological data:

Effect Assessment	Result
Acute toxicity	Not toxic after a single ingestion
Skin irritation	Not irritating to the skin
Eye irritation	Causes eye irritation
Sensitization	May cause an allergic skin reaction.
Genotoxicity	Does not cause genetic defect
Repeated dose toxicity	Not toxic after repeated ingestion
Toxicity for reproduction	Does not cause effects on fertility and/or unborn child

Note: For more information on the health hazards of this substance and recommended protective equipment, please refer to the relevant SDS.

Acute Health Effects:

Likelihood/frequency of oral, skin and inhalation exposures are low, if used under strictly recommended conditions and closed process. Disperse Blue 077 has low vapor pressure, high molecular weight and low partition coefficient, hence expected to have low inhalation and dermal exposure.

The oral exposure is not expected as this product is manufactured or handled in closed systems. Animal studies in rats have demonstrated low acute toxicity of Disperse Blue 077 by ingestion. While it is noted to cause sensitization upon skin contact and eye irritation upon eye contact.

Chronic Health Effects:

No adverse effects with repeated exposure can be anticipated in humans.

No effects on reproduction or fertility were observed in the rats exposed orally to Disperse Blue 077. Extensive experimental genetic toxicity studies have been conducted, which indicate that Disperse Blue 077 has no potential to cause genetic defects.

Summary: Ecotoxicological Data:

Effect Assessment	Result
Short term toxicity to fish	Not harmful to fish
Short term toxicity to aquatic invertebrates	Not harmful to daphnids
Toxicity to aquatic plants	Not harmful to <i>Lemna gibba</i>
Toxicity to microorganisms	Not harmful to bacteria

Disperse Blue 077 was found to pose no hazard to aquatic species including fish, daphnids, aquatic plants and microorganisms.

Summary: Environmental fate and pathway:

Effect Assessment	Result
Abiotic degradation - hydrolysis as a function of pH	Hydrolytically stable
Ready biodegradability	Non-biodegradable
Adsorption on soil and sediment	May adsorb to the soil and sediment

Disperse Blue 077 is not considered readily biodegradable but is hydrolytically stable. It is also considered to have good adsorption potential on soil and sediment. However, Disperse Blue 077 was found to be not harmful to aquatic life under the US GHS for Hazard Communication. More information can be obtained in the Safety Data Sheet.

The closed process in which the product is used does not lead to direct emissions to soil and air. Procedural and/or control technologies are used to minimize emissions and potential exposure during cleaning and maintenance activities.

Potential Occupational Exposure:

At Huntsman, Disperse Blue 077 is manufactured in closed systems. During normal operating conditions, occupational exposure to Disperse Blue 077 is not expected in the manufacturing process. Procedural and/or control technologies are used to minimize exposure during sampling, cleaning, maintenance, or in open handling systems. Appropriate engineering controls (such as ventilation) and personal protective equipment should be used in accordance with the exposure guidelines and workplace practices identified in the Safety Data Sheet.

Potential Consumer Exposure:

Consumer:

Consumer exposure can result from handling of products that contain Disperse Blue 077 such as textiles or dyes. Use of these products are safe if the instructions provided by the manufacturer of the respective product are followed carefully.

There are no consumer uses for Disperse Blue 077, although some dermal exposure from the service life is expected. Disperse Blue 077, being a disperse dye, is chemically bound to the textile fibers, while the residual unreacted dye in the fibers is minimized by efficient washing following the dyeing process and residual concentrations are considered being very low. This ensures a very low residual release during the service life of articles. Hence, oral and inhalation exposure are considered not relevant, while dermal exposure can be considered as negligible. Further, it is recommended to keep Disperse Blue 077 away from the reach of children and avoid direct contact.

Workplace exposure:

Workers working with Disperse Blue 077 in industrial operations could be exposed during maintenance, sampling, testing, or other procedures. Workplace exposure is controlled and minimized by use of proper occupational handling procedures and personal protection and safety equipment. Potential routes of worker exposure to Disperse Blue 077 are through dermal contact and to a minor extent, through inhalation in a Disperse Blue 077 manufacturing facility or in the various industrial facilities that use Disperse Blue 077. Ingestion is not an anticipated route of exposure. Worker exposure can occur in industrial facilities where the substance is produced or formulated into end-use products or used as textile dyes. Within this assessment, both industrial workers and trained professionals are evaluated. The exposure has been assessed as safe if the substance is used as directed on the label, avoiding splashes onto skin and into eyes. Huntsman follows and recommends customers to follow workplace exposure guidelines through a variety of industrial hygiene and ventilation measures. The substance has been assessed as safe for professional and industrial use, when the provisions identified in the SDS are followed carefully.

Likelihood/frequency of skin and inhalation exposure is low, due to its usage under strictly controlled conditions and closed process. Also, no combined exposure of workers is expected as there are no consumer uses for Disperse Blue 077, while exposure during service life is negligible as it is chemically bound to the textile fibers and residual release is also minimized.

Environmental exposure:

Disperse Blue 077 is not readily biodegradable, its hydrolytically stable and not harmful to aquatic organisms. Conclusively, all identified uses are safe for the environment based on the scientific facts and when carried out in compliance with recommended risk management measures and applicable regulations.

EU REACH Status:

Disperse Blue 077 has been registered under the European REACH Regulation EC/1907/2006 and the substance was found to be safe for the uses identified.

Regulatory Information/Classification and Labeling:

Regulations exist that govern manufacture, sales, transportation, use and disposal of Disperse Blue 077. These regulations may vary by city, state, country or geographic region. Information can be found by consulting the relevant SDS.

Under the US GHS for Hazard Communication, substances are classified according to their physical, health, and environmental hazards. The hazards are communicated via specific labels and the Safety Data Sheets. US GHS attempts to standardize hazard communication so that the intended audience (workers, consumers, transport workers, and emergency responders) can better understand the hazards of the chemicals in use.

The hazard statements and symbols presented here refer to the hazard properties of the concentrated substance and are meant to provide a brief overview of the substance's labeling. It is not intended to be comprehensive or to replace information found in the Safety Data Sheet.

Labeling according to US GHS:



Signal Word
Warning

US GHS Classification	
Eye irritation	Category 2
Skin sensitization	Category 1A

Hazard Statements	
H319	Causes eye irritation
H317	May cause an allergic skin reaction

Additional Information:

Information on registered substances is available on the European Chemicals Agency (ECHA) website at <https://echa.europa.eu>.

References:

Information on registered substance (ECHA)
[Registration Dossier - ECHA \(europa.eu\)](https://echa.europa.eu)

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THE PRODUCT MAY PRESENT HAZARDS AND SHOULD BE USED WITH CAUTION. WHILE CERTAIN HAZARDS ARE DESCRIBED IN THIS PUBLICATION, NO GUARANTEE IS MADE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.

Hazards, toxicity, and behavior of the products may differ when used with other materials and are dependent upon the manufacturing circumstances or other processes. Such hazards, toxicity, and behavior should be determined by the user and made known to handlers, processors, and end users.

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