

According to the UN GHS revision 8

Creation Date: May 08, 2026

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## 1. IDENTIFICATION

### 1.1 GHS Product identifier

Product name: Direct Black 38

Catalog Number: T15135

CAS Number: 1937-37-7

### 1.2 Other means of identification

Other names: -

### 1.3 Recommended use of the chemical and restrictions on use

Identified uses:

### 1.4 Supplier's details

Company: Targetmol Chemicals Inc.

Address: 34 Washington Street, Wellesley Hills, Massachusetts 02481 USA

Tel/Fax: (781) 999-4286

### 1.5 Emergency phone number

Emergency phone number: 781-999-4286

Service hours: Monday to Friday, 9am-5pm (Standard timezone: UTC/GMT -5 hours).

## 2. HAZARD IDENTIFICATION

### 2.1 Classification of the substance or mixture

Carcinogenicity, Category 1B

Reproductive toxicity, Category 2

### 2.2 GHS label elements, including precautionary statements

Pictogram(s):



Signal word: Danger

Hazard statement(s): H350 May cause cancer

Precautionary statement(s):

Prevention:

P203 Obtain, read and follow all safety instructions before use.  
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...

Response:

P318 IF exposed or concerned, get medical advice.

Storage:

P405 Store locked up.

Disposal:

P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

### 2.3 Other hazards which do not result in classification

no data available

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.1 Substances

Chemical name	Common names and synonyms	CAS number	EC number
Direct Black 38	-	1937-37-7	217-710-3

### 4. FIRST-AID MEASURES

#### 4.1 Description of necessary first-aid measures

##### General advice

no data available

##### If inhaled

Move the victim into fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and consult a doctor immediately. Do not use mouth to mouth resuscitation if the victim ingested or inhaled the chemical.

##### Following skin contact

Take off contaminated clothing immediately. Wash off with soap and plenty of water. Consult a doctor.

##### Following eye contact

Rinse with pure water for at least 15 minutes. Consult a doctor.

##### Following ingestion

Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a doctor or Poison Control Center immediately.

#### 4.2 Most important symptoms/effects, acute and delayed

Absorption, Distribution and Excretion Urine samples of 18 workers in a small scale unit manufacturing Direct Black 38 were /determined/ by high-pressure liquid chromatography for the presence of benzidine and mono and diacetyl benzidine. Acetylated metabolites were found in all the urine samples, and benzidine was found in all except two. Two workers excreted very high levels of benzidine and its metabolites in their urine. This study highlights the potential risk of bladder cancer in such units of developing countries where manufacture of benzidine based dyes is yet to be regulated.

#### 4.3 Indication of immediate medical attention and special treatment needed, if necessary

ACUTE/CHRONIC HAZARDS: This compound may be absorbed through the skin. When heated to decomposition it emits very toxic fumes of nitrogen oxides, disodium oxide and sulfur oxides. (NTP, 1992)

### 5. FIRE-FIGHTING MEASURES

#### 5.1 Extinguishing media

Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

#### 5.2 Specific hazards arising from the chemical

Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)

#### 5.3 Special protective actions for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

### 6. ACCIDENTAL RELEASE MEASURES

#### 6.1 Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Avoid breathing mist, gas or vapours. Avoid contacting with skin and eye. Use personal protective equipment. Wear chemical impermeable gloves. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

#### 6.2 Environmental precautions

Prevent further spillage or leakage if it is safe to do so. Do not let the chemical enter drains. Discharge into the environment must be avoided.

#### 6.3 Methods and materials for containment and cleaning up

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PRECAUTIONS FOR "CARCINOGENS": A high-efficiency particulate arrestor (HEPA) or charcoal filters can be used to minimize amt of carcinogen in exhausted air ventilated safety cabinets, lab hoods, glove boxes or animal rooms ... Filter housing that is designed so that used filters can be transferred into plastic bag without contaminating maintenance staff is avail commercially. Filters should be placed in plastic bags immediately after removal ... The plastic bag should be sealed immediately ... The sealed bag should be labelled properly ... Waste liquids ... should be placed or collected in proper containers for disposal. The lid should be secured & the bottles properly labelled. Once filled, bottles should be placed in plastic bag, so that outer surface ... is not contaminated ... The plastic bag should also be sealed & labelled. ... Broken glassware ... should be decontaminated by solvent extraction, by chemical destruction, or in specially designed incinerators. Chemical Carcinogens

### 7. HANDLING AND STORAGE

#### 7.1 Precautions for safe handling

Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

#### 7.2 Conditions for safe storage, including any incompatibilities

PRECAUTIONS FOR "CARCINOGENS": Storage site should be as close as practical to lab in which carcinogens are to be used, so that only small quantities required for ... expt need to be carried. Carcinogens should be kept in only one section of cupboard, an explosion-proof refrigerator or freezer (depending on chemophysical properties ...) that bears appropriate label. An inventory ... should be kept, showing quantity of carcinogen & date it was acquired ... Facilities for dispensing ... should be contiguous to storage area. Chemical Carcinogens

Keep away from direct sunlight

Powder: -20°C for 3 years | In solvent: -80°C for 1 year

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### 8.1 Control parameters

##### Occupational Exposure limit values

NIOSH recommends that three widely used benzidine derived dyes, Direct Black 38, Direct Blue 6, and Direct Brown 95, be handled in the workplace as if they were human carcinogens.

##### Biological limit values

NIOSH considers benzidine based dyes to be potential occupational carcinogens. /Benzidine based dyes/

#### 8.2 Appropriate engineering controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

#### 8.3 Individual protection measures, such as personal protective equipment (PPE)

##### Eye/face protection

Wear tightly fitting safety goggles with side-shields conforming to EN 166(EU) or NIOSH (US).

##### Skin protection

Wear fire/flame resistant and impervious clothing. Handle with gloves. Gloves must be inspected prior to use. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

##### Respiratory protection

If the exposure limits are exceeded, irritation or other symptoms are experienced, use a full-face respirator.

##### Thermal hazards

no data available

### 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Solid
Color	no data available
Odour	no data available
Melting point/freezing point	29°C(lit.)
Boiling point or initial boiling point and boiling range	143°C
Flammability	no data available

<b>Lower and upper explosion limit/flammability limit</b>	no data available
<b>Flash point</b>	18°C(lit.)
<b>Auto-ignition temperature</b>	no data available
<b>Decomposition temperature</b>	no data available
<b>pH</b>	no data available
<b>Kinematic viscosity</b>	no data available
<b>Solubility</b>	DMSO: 20 mg/mL (25.58 mM),Sonication is recommended. H2O: 2 mg/mL (2.56 mM),Sonication is recommended. ( $< 1$ mg/ml refers to the product slightly soluble or insoluble)
<b>N-octanol-water partition coefficient</b>	no data available
<b>Vapour pressure</b>	no data available
<b>Density and/or relative density</b>	1.61g/cm <sup>3</sup>
<b>Relative vapour density</b>	no data available
<b>Particle characteristics</b>	no data available

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

NIOSH considers benzidine based dyes to be potential occupational carcinogens. Benzidine based dyes

### 10.2 Chemical stability

no data available

### 10.3 Possibility of hazardous reactions

C.I. DIRECT BLACK 38 is an azo compound. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases may form with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases form with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides. Incompatible with strong acids [NTP, 1992].

### 10.4 Conditions to avoid

no data available

### 10.5 Incompatible materials

Red fuming nitric acid. Benzidine based dyes

### 10.6 Hazardous decomposition products

no data available

## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

Oral: no data available  
Inhalation: no data available  
Dermal: no data available

### Skin corrosion/irritation

no data available

### Serious eye damage/irritation

no data available

### Respiratory or skin sensitization

no data available

### **Germ cell mutagenicity**

no data available

### **Carcinogenicity**

Classification of carcinogenicity: 1) evidence in humans: inadequate; 2) No data for evidence in animals. Overall summary evaluation of carcinogenic risk to humans is Group 2A: The agent is probably carcinogenic to humans. From table; Benzidine-based dyes

### **Reproductive toxicity**

no data available

### **STOT-single exposure**

no data available

### **STOT-repeated exposure**

no data available

### **Aspiration hazard**

no data available

## **12. ECOLOGICAL INFORMATION**

### **12.1 Toxicity**

Toxicity to fish: no data available

Toxicity to daphnia and other aquatic invertebrates: no data available

Toxicity to algae: no data available

Toxicity to microorganisms: no data available

### **12.2 Persistence and degradability**

A 5-day BOD value of 8% of the theoretical value has been determined for this dye(2). C.I. Direct Black 38 biodegraded to benzidine in both river water and soil(1). Benzidine did not degrade further in over 9 days(1). This compound may be biodegraded anaerobically; a wide variety of anaerobic bacteria have the ability to cleave the azo linkage to produce aromatic amines(3).

### **12.3 Bioaccumulative potential**

An estimated BCF value of 20 was calculated for C.I. Direct Black 38(SRC), using an estimated log Kow of 2(1,SRC) and a recommended regression-derived equation(2). According to a recommended classification scheme(3), this BCF value suggests that bioconcentration of C.I. Direct Black 38 in aquatic organisms will not be an important fate process(SRC).

### **12.4 Mobility in soil**

The Koc of C.I. Direct Black 38 is estimated as approximately 300(SRC), using an estimated log Kow of 2(1,SRC) and a regression-derived equation(2,SRC). According to a recommended classification scheme(3), this estimated Koc value suggests that C.I. Direct Black 38 has moderate mobility in soil(SRC). Due to the ionic nature of the dye, the retention of C.I. Direct Black 38 by ion-exchange processes(4), particularly on clay surfaces and adsorption at mineral surfaces such as goethite(5), may slow down or prevent leaching(SRC).

### **12.5 Other adverse effects**

no data available

## **13. DISPOSAL CONSIDERATIONS**

### **13.1 Disposal methods**

#### **Product**

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

#### **Contaminated packaging**

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

## **14. TRANSPORT INFORMATION**

### **14.1 UN Number**

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no data available

### 14.2 UN Proper Shipping Name

no data available

### 14.3 Transport hazard class(es)

no data available

### 14.4 Packing group, if applicable

no data available

### 14.5 Environmental hazards

no data available

### 14.6 Special precautions for user

no data available

### 14.7 Transport in bulk according to IMO instruments

no data available

## 15. REGULATORY INFORMATION

### 15.1 Safety, health and environmental regulations specific for the product in question

European Inventory of Existing Commercial Chemical Substances (EINECS)	Listed.
EC Inventory	Listed.
United States Toxic Substances Control Act (TSCA) Inventory	Listed.
China Catalog of Hazardous chemicals 2015	Not Listed.
New Zealand Inventory of Chemicals (NZIoC)	Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	Listed.
Vietnam National Chemical Inventory	Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)	Listed.
Korea Existing Chemicals List (KECL)	Listed.

## 16. OTHER INFORMATION

### Information on revision

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### Abbreviations and acronyms

- CAS: Chemical Abstracts Service
- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- RID: Regulation concerning the International Carriage of Dangerous Goods by Rail
- IMDG: International Maritime Dangerous Goods
- IATA: International Air Transportation Association
- TWA: Time Weighted Average
- STEL: Short term exposure limit
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%
- EC50: Effective Concentration 50%

### References

IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>  
HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>

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IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>

eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: [http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)

CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>

ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>

ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>

Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>

ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

### Other Information

no data available

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*Disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. We as supplier shall not be held liable for any damage resulting from handling or from contact with the above product. All products are for Research Use Only - Not For Human or Veterinary or Therapeutic Use*