

**MATERIAL SAFETY DATA SHEET****ALCIAN BLUE**

PRODUCT CODE NUMBER(S): 0820-5

**PRODUCT IDENTIFICATION**

**Chemical Name and Synonyms:** *Alcian blue*  
**Chemical Family:** *Organic copper salt*  
**Chemical Formula:**  $C_{56}H_{68}Cl_4CuN_{16}S_4$   
**Product Use:** *Laboratory reagent*  
**Manufacturer's Name and Address:**  
*Caledon Laboratories Ltd.*  
*40 Armstrong Avenue*  
*Georgetown, Ontario L7G 4R9*  
**Telephone No:** (905) 877-0101  
**Fax No:** (905) 877-6666  
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**HAZARDOUS INGREDIENTS OF MATERIALS**

<i>Ingredients</i>	<i>%</i>	<i>TLV Units</i>	<i>CAS No.</i>
<i>Alcian blue</i>	<i>~99</i>	<i>Not available</i>	<i>12040-44-7</i>

**PHYSICAL DATA**

**Physical State:** *Solid*  
**Odour and Appearance:** *Dark blue crystals, odourless*  
**Odour Threshold (ppm):** *Not applicable*  
**Vapour Pressure (mm Hg):** *Not available*  
**Vapour Density (Air = 1):** *Not available*  
**Evaporation Rate:** *Not applicable*  
**Boiling Point (degrees C):** *Not available*  
**Melting Point (degrees C):** *Not available*  
**pH:** *Not available*  
**Specific Gravity:** *Not available*  
**Coefficient of Water/Oil distribution:** *Not available*

**SHIPPING DESCRIPTION**

**UN:** *Not regulated*  
**T.D.G. Class:** *Not regulated*  
**Pkg. Group:** *Not regulated*

**REACTIVITY DATA**

**Chemical Stability:** *Stable*  
**Incompatibility with other substances:** *May react violently or explosively with strong oxidizers.*  
**Reactivity:** *Avoid excessive heat, ignition sources, generation of dust, incompatible materials.*  
**Hazardous Decomposition Products:**  $CO_x$ ,  $NO_x$ ,  $SO_x$

**FIRE AND EXPLOSION DATA**

**Flammability:** *May be combustible if strongly heated. As with most organic compounds, fine dust dispersed in air in*

*the presence of an ignition source is a potential dust explosion hazard.*

**Extinguishing Media:** *Use an extinguisher appropriate to the surrounding material which is burning. Use water as spray or fog to minimize dust, absorb heat, cool containers, and disperse vapours. Fight fire from upwind, from a safe distance. Firefighters should wear protective equipment, full face-piece positive-pressure self-contained breathing apparatus, and clothing sufficient to prevent inhalation of dust or fumes, and contact with skin and eyes.*

**Flash Point (Method Used):** *Not applicable*

**Autoignition Temperature:** *Not applicable*

**Upper Flammable Limit (% by volume):** *Not applicable*

**Lower Flammable Limit (% by volume):** *Not applicable*

**Hazardous Combustion Products:** *Toxic fumes of  $CO_x$ ,  $NO_x$ ,  $SO_x$*

**Sensitivity to Impact:** *None identified*

**Sensitivity to Static discharge:** *As with most organic powders, mixtures of dust with air may be sensitive under certain conditions, when ignited by an electrostatic or other high-voltage spark, or other ignition source.*

**TOXICOLOGICAL PROPERTIES AND HEALTH DATA**

*To the best of our knowledge the physical, chemical and toxicological properties of this substance have not yet been thoroughly investigated. No adverse health effects expected.*

**Toxicological Data:**

**LD<sub>50</sub>:** *Not available*

**LC<sub>50</sub>:** *Not available*

**Effects of Acute Exposure to Product:**

**Inhaled:** *May be irritating. May cause coughing, nasal congestion, shortness of breath. Inhalation of large amounts may be harmful.*

**In contact with skin:** *Concentrated solutions may be irritating. Dust is not expected to irritate. Probably not absorbed through skin.*

**In contact with eyes:** *Concentrated solutions may be irritating to eye tissue. Dust may cause mechanical irritation.*

**Ingested:** *Low in oral toxicity. Large doses may be irritating, causing nausea and vomiting.*

**Effects of Chronic Exposure to Product:**

*Chronic copper poisoning is typified by hepatic cirrhosis, brain damage, kidney defects, copper deposits in the cornea. It may lead to hemolytic anemia and it accelerates arteriosclerosis.*

**Carcinogenicity:** *Studies incomplete*

**Teratogenicity:** *No human information available. Animal studies inconclusive.*

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**Reproductive Effects:** No human information available. Animal testing shows decreased sperm counts after high copper levels (by injection) in the body. Not applicable to occupational exposure.

**Mutagenicity:** No human information available. Animal studies inconclusive.

**Synergistic Products:** None known

## PREVENTIVE MEASURES

**Engineering Controls:** Local exhaust ventilation recommended

**Respiratory Protection:** Dust mask. NIOSH approved respirator for dusty conditions. For high or unknown concentrations, as in fire or spill conditions, positive-pressure, full face-piece self contained breathing apparatus or supplied-air respirator..

**Eye Protection:** Chemical safety goggles

**Skin Protection:** Chemical resistant gloves. Other protective clothing sufficient to prevent contact.

**Other Personal Protective Equipment:** Safety shower and eye-wash fountain in work area.

**Leak and Spill Procedure:** Ventilate area. Eliminate all sources of ignition. Cleanup personnel should be trained in the hazards of the material and its safe handling, and should wear protective equipment and clothing sufficient to prevent inhalation of dust or fumes, and contact with skin and eyes. Gather up in a manner that does not raise dust; wet if necessary. Contain spill with inert absorbent, collect, and transfer carefully to containers for recovery or disposal. Flush area of spill thoroughly with running water.

**Waste Disposal:** Dispose of in compliance with local, provincial and federal regulations.

**Handling Procedures and Equipment:** COMBUSTIBLE DUST. Workers using this chemical must be properly trained in its hazards and its safe use, and must wear appropriate protective equipment and clothing. Avoid generating dust. If there is dust, keep away from heat, sparks, and all sources of ignition; avoid the accumulation of static charge, use anti-sparking tools and ground and bond equipment and containers. Use the smallest amount possible for the purpose, in a designated area with adequate ventilation. Use good housekeeping to prevent accumulations of dust. Avoid contact with skin and eyes. Avoid inhalation. Wash thoroughly after handling.

**Storage Requirements:** Store in suitable, labelled containers, in a cool, dry, well-ventilated area, out of direct sunlight, and away from incompatible or combustible materials. Keep containers tightly closed when not in use and when empty. Protect from damage. Store away from incompatible materials.

## FIRST AID MEASURES

### Specific Measures:

**Eyes:** Flush eyes thoroughly with gently running water, holding eyelids open while flushing, for five to ten (5-10) minutes, or until no trace of chemical remains. Get medical advice if irritation develops.

**Skin:** Remove contaminated clothing. Brush or wipe off dry material. Flush skin with plenty of running water until no evidence of chemical remains. If irritation develops get medical attention.

**Inhalation:** Remove to fresh air. Give oxygen and get medical attention for any breathing difficulty.

**Ingestion:** If the victim is alert and not convulsing, rinse mouth thoroughly with water and give 2 to 4 glasses of water to drink to dilute. If victim feels unwell, or if a large amount has been ingested, get medical attention.

## REFERENCES USED

CCINFO disc: MSDS's

Sax, Lewis: Hawley's Condensed Chemical Dictionary, 11th ed., 1987

Sax: Dangerous Properties of Industrial Materials, 5th ed., 1979

Suppliers' Material Safety Data Sheets

## ADDITIONAL INFORMATION

**Date Issued:** November 2001

**Revision:** November 2010

**MSDS:** 0820-5

**Proposed WHMIS Designation:** Not controlled. Not required to be updated every three years (WHMIS 1992, B-40, Section 29,2)

Prepared by: Caledon Laboratories Ltd. (905) 877-0101  
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