



VERICHEM

TECHNICAL DATA SHEETS

DBDCB

EPA Registration No, 67869-

DESCRIPTION	DBDCB is a preservative which effectively inhibits the growth of microorganisms in aqueous systems, including paints, emulsions, adhesives, joint cements, pigment dispersions, metalworking fluids, waxes, polishes and inks. Chemically, DBDCB is a minimum of 98% 1, 2-dibromo-2, 4-dicyanobutane (chemical name).
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TYPICAL PROPERTIES	<p>Color Off -white</p> <p>Bulk density (lb/ft³) Approximately 48</p> <p>Melting Point 50°C minimum</p> <p>Odor Mildly pungent</p> <p>Water solubility @ 20°C 2120 ppm</p> $ \begin{array}{c} \text{CH}_2 \text{ Br} \\ \\ \text{NC-C-CH}_2\text{-CH}_2\text{-CN} \\ \\ \text{Br} \end{array} $
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TYPICAL LEVELS OF USE	<p>Laboratory testing and customer use show that DBDCB is typically effective when applied at concentrations shown below. All concentrations are based on total formulation of weight.</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 80%;"></th> <th style="text-align: right;"><u>Effective Concentration</u></th> </tr> </thead> <tbody> <tr> <td>Aqueous paints</td> <td style="text-align: right;">0.025 - 0.075%</td> </tr> <tr> <td>Latex emulsions</td> <td style="text-align: right;">0.010 - 0.050%</td> </tr> <tr> <td>Joint cements</td> <td></td> </tr> <tr> <td style="padding-left: 20px;">Paste Type, vinyl latex & protein</td> <td style="text-align: right;">0.050 - 0.100%</td> </tr> <tr> <td style="padding-left: 20px;">Reconstituted powder type, vinyl latex & protein</td> <td style="text-align: right;">0.100 - 0.200%</td> </tr> <tr> <td>Adhesives</td> <td></td> </tr> <tr> <td style="padding-left: 20px;">Starch</td> <td style="text-align: right;">0.010 - 0.025%</td> </tr> <tr> <td style="padding-left: 20px;">Epoxy & polyester</td> <td style="text-align: right;">0.010 - 0.075%</td> </tr> <tr> <td style="padding-left: 20px;">Polyvinyl acetate, styrene butadiene, methyl cellulose & acrylic</td> <td style="text-align: right;">0.025 - 0.075%</td> </tr> <tr> <td style="padding-left: 20px;">Polyvinyl alcohol & hydroxyethyl cellulose</td> <td style="text-align: right;">0.050 - 0.075%</td> </tr> <tr> <td style="padding-left: 20px;">Dextrin</td> <td style="text-align: right;">0.075 - 0.100%</td> </tr> <tr> <td style="padding-left: 20px;">Casein</td> <td style="text-align: right;">0.100 - 0.150%</td> </tr> <tr> <td>Dispersed pigments</td> <td></td> </tr> <tr> <td style="padding-left: 20px;">Titanium dioxide, calcium carbonate & clay</td> <td style="text-align: right;">0.010 - 0.025%</td> </tr> <tr> <td>Metalworking fluids</td> <td></td> </tr> <tr> <td style="padding-left: 20px;">Concentrates</td> <td style="text-align: right;">1.000 - 4.000%</td> </tr> <tr> <td style="padding-left: 20px;">Dilute fluids</td> <td style="text-align: right;">0.025 - 0.100%</td> </tr> <tr> <td>Waxes & polishes</td> <td style="text-align: right;">0.010 - 0.100%</td> </tr> <tr> <td>Inks</td> <td style="text-align: right;">0.010 - 0.075%</td> </tr> </tbody> </table>		<u>Effective Concentration</u>	Aqueous paints	0.025 - 0.075%	Latex emulsions	0.010 - 0.050%	Joint cements		Paste Type, vinyl latex & protein	0.050 - 0.100%	Reconstituted powder type, vinyl latex & protein	0.100 - 0.200%	Adhesives		Starch	0.010 - 0.025%	Epoxy & polyester	0.010 - 0.075%	Polyvinyl acetate, styrene butadiene, methyl cellulose & acrylic	0.025 - 0.075%	Polyvinyl alcohol & hydroxyethyl cellulose	0.050 - 0.075%	Dextrin	0.075 - 0.100%	Casein	0.100 - 0.150%	Dispersed pigments		Titanium dioxide, calcium carbonate & clay	0.010 - 0.025%	Metalworking fluids		Concentrates	1.000 - 4.000%	Dilute fluids	0.025 - 0.100%	Waxes & polishes	0.010 - 0.100%	Inks	0.010 - 0.075%
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REGISTRATIONS & APPROVALS	<p>DBDCB is registered by the U.S. Environmental Protection Agency (EPA Registration No. 67869-) as a product to inhibit the growth of microorganisms in aqueous systems such as paints; latex emulsions; paste and reconstituted powdered type vinyl, vinyl latex, and protein joint cements; adhesives containing starch, epoxy, polyester, polyvinyl acetate, styrene butadiene, methyl cellulose and acrylic, dextrin and casein; in dispersed pigments such as titanium dioxide, calcium carbonate and clay; in dilute and concentrated metalworking fluids; and in waxes polishes and inks.</p> <p>DBDCB has FDA approval under 21 CFR 175.105, 176.170, 176.180, 176.210, 176.300.</p> <p>HMIS Ratings: Health = 3* Flammability = 1 Reactivity = 0 Personal Protective Equipment = X (to be specified by user depending on use conditions).</p> <p>*There are potential chronic health effects to consider. *Hazard rating scale: O=Minimal 1=Slight 2=Moderate 3=Serious 4=Severe</p>
DIRECTIONS FOR USE	<p>It is a violation of Federal law to use this product in a manner inconsistent with its labeling.</p> <p><i>Aqueous Paints</i> DBDCB should be incorporated into the make-up water during the grind.</p> <p><i>Latex Emulsions</i> DBDCB should be added using moderate agitation immediately following the cool-down of the emulsion and prior to entering the storage tank facilities.</p> <p><i>Joint Cements</i> DBDCB should be incorporated with agitation into the make-up water blend.</p> <p><i>Adhesives</i> DBDCB should be incorporated with agitation into the make-up water blend. However, where the adhesive is heated, DBDCB should be added during the cool-down cycle.</p> <p><i>Dispersed Pigments</i> DBDCB should be added using moderate agitation immediately following the cool-down of the dispersed pigment and prior to entering the storage tank facilities.</p> <p><i>Metalworking Fluids</i> DBDCB can be readily incorporated into metalworking fluid formulations by addition to the concentrate with moderate agitation.</p> <p><i>Waxes, Polishes, and Inks</i> DBDCB should be incorporated into the make-up water blend with moderate agitation.</p>
COMPATIBILITY	<p>DBDCB is compatible with typical ingredients in end-use formulations. However, it should be added separately from amine-containing and strong nucleophilic agents during product formulation. Mixing DBDCB with these agents may cause a reaction between the ingredients, which can deactivate DBDCB.</p> <p>DBDCB is most active over a pH range of 2 - 9.5. In some formulations, product has shown efficacy in higher pH formulations. If the formulation will have a final pH greater than 9.5 laboratory testing is recommended.</p>
CORROSION PROPERTIES	<p>DBDCB is compatible with materials such as PVC, polyethylene, polypropylene, Tygon*, Teflon and glass. The product is corrosive to carbon steel.</p> <p>*Tygon is a Registered Trademark of Norton Company.</p>

ENVIRONMENTAL HAZARDS	Do not discharge effluent containing this product into lakes, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.								
STORAGE AND DISPOSAL	<p>Drums of DBDCB should be stored out of direct sunlight to maintain the product below its melting point. If product is exposed to sustained temperatures above 50°C (122°F), caking will occur with associated handling problems. Product efficacy will not be affected. However, dissolution time will increase.</p> <p>Container should be kept tightly closed.</p> <p>Completely empty drum liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application equipment. Then dispose of liner in a sanitary landfill or by incineration if allowed by State and local authorities. If drum is contaminated and cannot be reused, dispose of in the same manner. Do not contaminate water, food or feed by storage or disposal.</p> <p>Waste resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.</p>								
PRECAUTIONARY STATEMENTS	<i>Hazards to Humans and Domestic Animals:</i> DANGER: Corrosive. Causes eye damage and skin irritation. May cause allergic skin reaction. Harmful or fatal if swallowed. Do not get in eyes, on skin, or on clothing. Wear goggles or face shield and rubber gloves when handling. Wash thoroughly after handling.								
FIRST AID	<p>IF IN EYES: Hold eyes open and rinse slowly and gently with water for 15-20 minutes. Get medical attention. Remove contact lenses, if present, after the first 5 minute, then continue rinsing eye. Call a poison control center or doctor for treatment advice.</p> <p>IF ON SKIN: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.</p> <p>IF SWALLOWED: Call a poison control center or doctor immediately for treatment advice. Have a person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.</p> <p>IF INHALED: Move person to fresh air. If not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth. Call a poison control center or doctor for treatment advice.</p> <p>Have the product container or label with you when calling a poison control center or doctor, or going for treatment.</p>								
PACKAGING	DBDCB is available in drums and water-soluble bags.								
SHIPPING	<table border="0"> <tr> <td>Proper Shipping Name:</td> <td>Not applicable</td> </tr> <tr> <td>Class/Division:</td> <td>Not restricted</td> </tr> <tr> <td>ID Number:</td> <td>Not applicable</td> </tr> <tr> <td>Packing Group:</td> <td>Not applicable</td> </tr> </table>	Proper Shipping Name:	Not applicable	Class/Division:	Not restricted	ID Number:	Not applicable	Packing Group:	Not applicable
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NOTICE

Seller makes no warranty, expressed or implied, concerning the use of this product other than that indicated on the label. Buyer assumes all risk of use and/or handling of this material when such use and/or handling is contrary to label instruction.

The information of this Data Sheet is offered solely for your information, consideration, and investigation and represents our current data and best opinion as to the proper use of this product under normal conditions. Any use of the product which is not in conformance with this Data Sheet or which involves using the product in combination with any other product or any other process is the responsibility of the user. This information is provided without warranties, either express or implied, and we assume no responsibility for the accuracy or completeness of the data contained herein.



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Or write VERICHEM, 3499 Grand Avenue, Pittsburgh, Pennsylvania 15225

CHEMICAL SOLUTIONS FOR MICROBIOLOGICAL PROBLEMS