

MATERIAL SAFETY DATA SHEET

777 East Park Drive
Tonawanda, N.Y. 14150-6784
(716)874-6020

399 Vansickle Road
St. Catharines, Ontario L2S 3T4
815 Fiero Lane
San Luis Obispo, CA 93403-5010

MSDS No. BB 157
Effective Date April 21, 1998

SECTION V HEALTH HAZARD DATA

BB 157

Threshold Limited Value

None established for this material. TLV Computed based on TWA values of ACGIH 1992-93: 111 ppm or 1,111 mg/m³ (Air).

Effects of Overexposure

May be harmful by inhalation, ingestion or skin absorption. May cause irritation to skin, eyes and mucous membranes. To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated. Exercise appropriate procedures to minimize opportunities for direct contact with skin or eyes and inhalation.

Emergency and First Aid Procedures

EYES: Flush thoroughly with water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get immediate medical attention. **SKIN:** Flush with water, then wash with mild soap and water. **INHALATION:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention. **INGESTION:** If swallowed, if conscious, give several glasses of water to drink. Call physician. Never give anything by mouth to an unconscious person.

SECTION VI REACTIVITY DATA

Stability	Unstable	Stable	Conditions to Avoid
		X	Excessive temperature and heat.

Incompatibility (Materials to Avoid)	Do not mix with hypochlorite solutions.
--------------------------------------	---

Hazardous Decomposition Products	Thermal decomposition or heating emits ammonia, carbon dioxide and/or carbon monoxide.
----------------------------------	--

Hazardous Polymerization	Conditions to Avoid
May Occur	Will Not Occur
	X
	Not applicable.

SECTION VII SPILL OR LEAK PROCEDURES

Steps to be taken in case material is released or spilled	Dilute with water and flush to sewer with copious amounts of water.
---	---

Waste Disposal Method

Discharge, treatment, or disposal may be subject to Federal, State or Local laws. These disposal guidelines are intended for the disposal of catalog-size quantities only.

Flush to sewer with copious amounts of water.

SECTION VIII SPECIAL PROTECTION INFORMATION

Respiration Protection (Specify Type)	None should be needed in normal laboratory handling. If misty conditions prevail, work in a ventilation hood or wear a NIOSH/MSHA approved respirator.
---------------------------------------	--

Ventilation	Local Exhaust	Recommended.	Special	No.
	Mechanical (General)	Recommended.	Other	No.

Protective Gloves	Rubber, for repeated use.	Eye Protection	Chemical safety glasses.
-------------------	---------------------------	----------------	--------------------------

Other Protective Equipment	Lab coat, eye wash station, proper ventilation, proper gloves.
----------------------------	--

SECTION IX SPECIAL PRECAUTIONS

Precautions to be Taken in Handling & Storing	Store in a cool, well-ventilated place away from fire hazards. Wash thoroughly after handling.
Keep container tightly closed when not in use.	

Other Precautions	Read label on container before using. Do not wear contact lenses when working with chemicals.
-------------------	---

Avoid contact with skin and eyes.
Remove and wash contaminated clothing.


For laboratory use only. Not for drug, food or household use. Keep out of reach of children.

Revision	No. 1	Date	4/21/98	Approved	Michael Raszeja	Chemical Safety Coordinator	MR
----------	-------	------	---------	----------	-----------------	-----------------------------	----

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. * Hazardous Materials Industrial Standards. Printed on recycled paper.

SECTION I NAME 24 HOUR EMERGENCY ASSISTANCE

Product	BOREAL CLEANING SOLUTION
Chemical Synonyms	Microscope Lens Cleaning Solution
Formula	Mixture (See Section II)
Unit Size	up to 4 Lt.
C.A.S. No.	Mixture.

	CHEMTREC 800-424-9300 Day 716-226-6177	Health	1
		Fire	0
		Reactivity	0
	NFPA HAZARD RATING LEAST SLIGHT MODERATE 0 1 2	HMIS * HIGH EXTREME 3 4	

SECTION II INGREDIENTS OF MIXTURES

Principal Component(s)	%	TLV Limits
Ammonium Hydroxide: (CAS No. 1336-21-6)	16.66%	25 ppm; 16 mg/m ³
* 95% Ethyl Alcohol (denatured): (CAS No. 64-17-5)	16.66%	1000 ppm; 1900 mg/m ³
Water: (CAS No. 7732-18-5)	66.66%	None established.
Sodium Lauryl Sulfate: (CAS No. 151-21-3)	.01%	None established.

WARNING! HARMFUL IF SWALLOWED. IRRITANT TO SKIN AND EYES.

SECTION III PHYSICAL DATA

Melting Point (°F)	Approx. -7°C (19.4°F)	Specific Gravity (H ₂ O = 1)	Approx. 0.97 @ 20°C
Boiling Point (°F)	Approx. 89°C (192°F)	Percent Volatile by Volume (%)	98%
Vapor Pressure (mm Hg)	16.3 (H ₂ O); 10 (Alc)	Evaporation Rate (Ether = 1)	Greater than 1 (H ₂ O).
Vapor Density (Air=1)	0.7 (water)		
Solubility in Water	Complete.		
Appearance & Odor	Clear, light blue liquid; ammonia odor.		

SECTION IV FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used)	104°F (40°C) T.C.C.	Flammable Limits in Air % by Volume	N/A	Lower	Upper
---------------------------	---------------------	-------------------------------------	-----	-------	-------

Extinguisher Media	Water spray; carbon dioxide (CO ₂); dry chemical.
--------------------	---

SPECIAL FIREFIGHTING PROCEDURES

In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

* **Denaturants:**
Methanol: (CAS No. 67-56-1)
Ethyl Acetate: (CAS No. 141-78-6)
Methyl Isobutyl Ketone: (CAS No. 108-10-1)
Rubber Hydrocarbon Solvent: (CAS No. 64742-89-8)

UNUSUAL FIRE AND EXPLOSION HAZARDS

Fire or excessive heat may produce hazardous decomposition products of oxides of nitrogen (NO_x) or ammonia fumes.
CAUTION! Flame may not be visible in daylight.

D.O.T.	NON-REGULATED.
--------	----------------

Approved by U.S. Department of Labor "essentially similar" to form OSHA-20