





Material Safety Data Sheet

This MSDS is prepared in accordance with OSHA 29 CFR 1910.1200

	WHMIS Class D-2B: Material causing other toxic effects (TOXIC).	HCS Class: Irritating substance.
WHMIS (Pictograms)	WHMIS (Classification)	HCS
Section 1. Chemical Product and Company Identification		
Product Name/ Trade name	Deep Blue	Code 182
Synonym	Glass Cleaner	CAS # Not applicable.
Chemical Family	Not available.	Validation Date 8/17/2005
Chemical Formula	Not applicable.	Print Date 8/17/2005
Manufacturer/ Supplier	Betco Corporation 1001 Brown Avenue Toledo, Ohio 43607 (419) 241-2156	In Case of Emergency Chemtrec (800) 424-9300
TSCA	TSCA Inventory: All components listed or are exempt from listing.	
DSL/ NDSL	All components listed unless noted elsewhere on this MSDS	
		Protective Clothing 

Section 2. Composition and Information on Ingredients				
Name	CAS #	% by Weight	Exposure Limits	LC ₅₀ /LD ₅₀
2-Butoxyethanol	111-76-2	5 - 10	ACGIH (United States). TWA: 20 ppm OSHA (United States). TWA: 50 ppm	ORAL (LD50): Acute: 1746 mg/kg [Rat].
Aqua Ammonia	1336-21-6	1 - 5	OSHA (United States). TWA: 50 ppm STEL: 35 ppm	Not available.

Section 3. Hazards Identification	
Potential Acute Health Effects	Corrosive to skin and eyes on contact. Liquid or spray mist may produce tissue damage particularly on mucous membranes of eyes, mouth and respiratory tract. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath.
Potential Chronic Health Effects	Prolonged exposure may result in skin burns and ulcerations. Repeated or prolonged exposure to the substance can produce mucous membranes damage. May aggravate existing respiratory conditions. Repeated or prolonged exposure to the substance can produce blood disorders. Based on Animal data. Relevance to humans is not yet determined. Repeated or prolonged exposure to the substance can produce kidney damage. Based on Animal Data. Effects on Humans has yet to be determined. Repeated or prolonged exposure to the substance can produce nervous system damage.
Carcinogenic Effects	Not classified or listed by IARC, NTP, OSHA, EU and ACGIH.

Section 4. First Aid Measures

Eye Contact	Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.
Skin Contact	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.
Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
Ingestion	Contact a poison control center immediately for treatment advice. Do not induce vomiting unless instructed to do so by poison control center or doctor. Take small sips of water if able to swallow. Do not give anything to by mouth to an unconscious person.

Section 5. Fire Fighting Measures

Products of Combustion	Not available.
Fire Fighting Media and Instructions	Non-flammable substance.
Special Remarks on Fire Hazards	N/A
Special Remarks on Explosion Hazards	N/A


Section 6. Accidental Release Measures

Small Spill and Leak	safety glasses with out perforated sides are appropriate for most conditions. If using in large quantities , face shield recommended.
Large Spill and Leak	Absorb with an inert material and put the spilled material in an appropriate waste disposal.
Personal Protection in Case of a Large Spill	Splash goggles. Boots. Gloves.

Section 7. Handling and Storage

Precautions	Avoid contact with skin and eyes. May react or be incompatible with oxidizing materials. Keep away from incompatibles. Ensure that eyewash station and safety shower is proximal to the work-station location. Avoid breathing vapors or spray mists.
Incompatibility	oxidizing agents
Storage	Keep out of the reach of children. Not for use or storage in or around the home.

Section 8. Exposure Controls/Personal Protection

Engineering Controls	Good general ventilation should be sufficient to control airborne levels.
Personal Protection	
<i>Eyes</i>	Splash goggles.
<i>Body</i>	No special protective clothing is required.
<i>Respiratory</i>	A respirator is not needed under normal and intended conditions of product use. Wear appropriate respirator when ventilation is inadequate.
<i>Hands</i>	Gloves (impervious).
Protective Clothing (Pictograms)	

Exposure Limits

Aqua Ammonia
TWA: 50 (ppm)
TWA: 50 (ppm) from OSHA (PEL)
STEL: 35 (ppm)

2-Butoxyethanol
TWA: 25 (ppm)
TWA: 50 (ppm) from OSHA (PEL)

Consult local authorities for acceptable exposure limits.

Section 9. Physical and Chemical Properties

Physical State and Appearance	Liquid.	Odor	Ammoniacal.
Molecular Weight	Not applicable.	Taste	Not available.
pH	12.3 [Basic.]	Color	Blue.
Boiling/Condensation Point	212 F		
Melting/Freezing Point	Not available.		
Critical Temperature	Not available.		
Instability Temperature	Not available.		
Specific Gravity	0.964 (Water = 1)		
Vapor Pressure	Not available.		
Vapor Density	>1 (Air = 1)		
Volatility	>99		
VOC	Not available.		
Evaporation Rate	>1		
Dispersion Properties	See solubility in water.		
Solubility	Easily soluble in cold water.		
The Product is:	May be combustible at high temperature.		
Auto-ignition Temperature	Not available.		
Flash Points	Not available.		
Flammable Limits	Not available.		
Fire Hazards in Presence of Various Substances	No specific information is available in our database regarding the flammability of this product in presence of various materials.		
Explosion Hazards in Presence of Various Substances	Non-explosive in presence of open flames and sparks, of heat.		

Section 10. Stability and Reactivity Data

Stability The product is stable.

Incompatibility with Various Substances oxidizing agents

Hazardous Decomposition Products Will not occur

Section 11. Toxicological Information

Routes of Entry Absorbed through skin. Eye contact. Inhalation. Ingestion.

Toxicity to Animals **WARNING: THE LC50 VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE.**

Acute oral toxicity (LD50): 1746 mg/kg [Rat]. (2-Butoxyethanol).

Acute toxicity of the gas (LC50): 926 ppm 4 hour(s) [Mouse]. (2-Butoxyethanol).

Acute Effects on Humans

Eyes Very hazardous in case of eye contact (irritant). Hazardous in case of eye contact (corrosive). Inflammation of the eye is characterized by redness, watering, and itching.

Skin Very hazardous in case of skin contact (irritant). Hazardous in case of skin contact (corrosive). Skin contact may produce burns. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

Inhalation Hazardous in case of inhalation. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Over-exposure by inhalation may cause respiratory irritation.

Ingestion Very hazardous in case of ingestion. May be fatal if swallowed. May cause burns to mouth, throat, and stomach.

Chronic Effects on Humans

Prolonged exposure may result in skin burns and ulcerations. Repeated or prolonged exposure to the substance can produce mucous membranes damage. May aggravate existing respiratory conditions. Repeated or prolonged exposure to the substance can produce blood disorders. Based on Animal data. Relevance to humans is not yet determined. Repeated or prolonged exposure to the substance can produce kidney damage. Based on Animal Data. Effects on Humans has yet to be determined. Repeated or prolonged exposure to the substance can produce nervous system damage.

Special Remarks on Toxicity to Animals No additional remark.

Special Remarks on Chronic Effects on Humans No additional remark.

Section 12. Ecological Information

Ecotoxicity Not available.

BOD5 and COD Not available.

Products of Biodegradation Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation Not available.

Special Remarks on the Products of Biodegradation No additional remark.

Section 13. Disposal Considerations

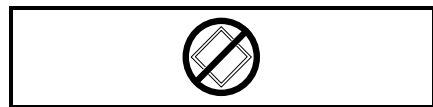
Waste Information	Waste must be disposed of in accordance with federal, state and local environmental control regulations.
Waste Stream	Not available.

Section 14. Transport Information

DOT (U.S.A)
(Pictograms)



TDG Classification Not a TDG controlled material.



PIN UN, Proper Shipping Name, PG Not applicable.

Maritime Transportation Not available.

Special Provisions for Transport Not available.

Section 15. Other Regulatory Information and Pictograms

WHMIS (Classification) WHMIS Class D-2B: Material causing other toxic effects (TOXIC).



Regulatory Lists No products were found.

Other Regulations OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

Other Classifications

HCS (U.S.A.) HCS Class: Irritating substance.

USA Regulatory Lists

SARA 302/304/311/312 extremely hazardous substances: Aqua Ammonia
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Aqua Ammonia: fire, immediate health hazard;
2-Butoxyethanol: immediate health hazard, delayed health hazard
SARA 313 toxic chemical notification and release reporting: 2-Butoxyethanol

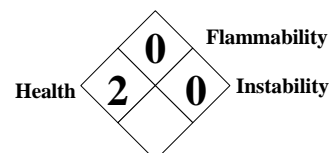
DSD (EEC)

International Regulations Lists No products were found.

Hazardous Material Information System (U.S.A.)

Health	*	2
Flammability		0
Physical Hazard		0

National Fire Protection Association (U.S.A.)



Specific Hazard

The Hazard Ranking systems presented on this MSDS provide only a quick reference for hazard information. The ENTIRE MSDS must be consulted to determine any specific hazards, First Aid measures, and PPE associated with this product.

Section 16. Other Information

Validated by CRushton on 8/17/2005.

Verified by CRushton.

Printed 8/17/2005.

Information Contact Betco Corporation
1001 Brown Avenue
Toledo, Ohio 43607

Notice to Reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Validated on 8/17/2005.

Deep Blue

Page: 6/6

Continued on Next Page