



Blue Shower® G3®

Cleaner/Degreaser
1630

Introduction

Blue Shower® G3® is based on a new-patented technology making it the direct replacement for cleaners/degreasers containing HCFC-141b. This innovative blend was designed for precision cleaning of polar and non-polar soils. Blue Shower® G3® is effective in cleaning electronic and electrical equipment, machinery, metal parts and other general cleaning applications.

Features / Benefits

Non-Ozone Depleting
Non-Flammable
Safe on Most Plastics
Rapidly Evaporating
Zero Residue

Chemical Components

1,2-transdichloroethylene.....	(156-60-5)	40-80%
1,1,1,3,3-Pentafluoropropane.....	(460-73-1)	10-50%
Ethanol.....	(64-17-5)	1-20%
1,1,1,2-Tetrafluoroethane (Propellant).....	(811-97-2)	10-20%
Carbon Dioxide (Propellant).....	(124-38-9)	1-10%

Solvent Specifications

Snap Approved	Non-Flammable	Toxicity Exposure (ppm)	Relative Evaporation Rate TCE=1	Surface Tension (dyne/cm)	Cleaning Efficiency 1=Relative efficiency of 141b*	VOC Content (grams/liter)	ODP
Yes	Yes	200	0.7	22.5	1.33	1005	0

*Cleaning Efficiency in compliance with MIL-PRF-29608(AS)

Plastic Compatibility

Material	Compatibility	Material	Compatibility
ABS	Not Compatible	PMMA	Not Compatible
Nylon	Excellent	POM	Excellent
Lexan	Not Compatible	PP	Excellent
HDPE	Excellent	PS	Not Compatible
CDPE	Excellent	PTFE	Excellent
C. E. Phenolic	Excellent	PVC	Excellent

Environmental Policy

Techspray® is committed to developing products to ensure a safer and cleaner environment. We will continue to meet and sustain the regulations of all federal, state and local government agencies.

Licensing Restriction

The use of this product for cleaning is subject to U.S. Patent No. 5,902,412 and use is restricted by Tech Spray, L. P.

Packaging and Availability

Blue Shower® G3® is available in the following size:

1630-10S	10 Ounce Aerosol
1630-16S	16 Ounce Aerosol

MATERIAL SAFETY DATA SHEET

Finished Product

MSDS Ref. No: 1630-A

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT DESCRIPTION: Blue Shower® G3®**PRODUCT CODE:** 1630-6S,16S, 10S (Aerosols)

MANUFACTURER

Techspray, L.P.

2. COMPOSITION / INFORMATION ON INGREDIENTS

<u>Chemical Name</u>	<u>Wt. %</u>	<u>CAS#</u>	<u>EINECS#</u>
1,2-transdichloroethylene (Trans)	40 - 80	156-60-5	205-860-2
1,1,1,3,3-Pentafluoropropane (HFC-245fa)	10 - 50	460-73-1	4191706
Ethanol	1 - 20	64-17-5	200-578-6
1,1,1,2-Tetrafluoroethane (HFC-134a)	10 - 20	811-97-2	223770
Carbon dioxide	1 - 10	124-38-9	

EEC LABEL SYMBOL AND CLASSIFICATION



R20 - Harmful by inhalation.

EEC Harmful - "Xn"

clothing separately before reuse.

INGESTION: If swallowed, gently wipe or rinse the inside of the mouth with water. DO NOT induce vomiting. Sips of water may be given if person is fully conscious. Never give anything by mouth to an unconscious or convulsing person. Immediately contact a poison control center, emergency room or physician as further treatment may be necessary.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.

5. FIRE FIGHTING MEASURES

FLASHPOINT AND METHOD: None : ASTM D-56 (Tag C.C.)

EXTINGUISHING MEDIA: Use alcohol foam, carbon dioxide, or water spray when fighting fires involving this material.

FIRE FIGHTING PROCEDURES: Use water spray to keep fire-exposed containers cool and to knock down vapors which may result from product decomposition.

FIRE FIGHTING EQUIPMENT: As in any fire, wear self-contained breathing apparatus pressure-demand, (MSHA/NIOSH approved or equivalent) and full protective gear.

HAZARDOUS DECOMPOSITION PRODUCTS: Toxic oxides of carbon and corrosive vapors of hydrogen chloride.

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILL: Contain spill with dike to prevent entry into sewers.

LARGE SPILL: If this material is released into a work area, evacuate the area immediately.

GENERAL PROCEDURES: Dike area to contain spill. Take precautions as necessary to prevent contamination of ground and surface waters. Recover spilled material on adsorbent, such as sawdust or vermiculite, and sweep into closed containers for disposal. After all visible traces, including vapors, have been removed thoroughly wet vacuum the area. Do not flush to sewer. If area of spill is porous, remove as much contaminated earth, gravel, etc. as necessary and place in closed containers for disposal.

SPECIAL PROTECTIVE EQUIPMENT: Only personnel equipped with proper respiratory and skin/eye protection should be permitted in area. See Section 8 for details.

7. HANDLING AND STORAGE

HANDLING: Use with sufficient ventilation to keep employee exposure below recommended limits. Provide adequate ventilation for storage, handling and use, especially for enclosed or low spaces. Avoid contact of liquid with eyes and prolonged skin exposure. Do not allow product to contact open flame or electrical heating elements because dangerous decomposition products may form.

STORAGE: Store away from heat.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE GUIDELINES:

OSHA HAZARDOUS COMPONENTS (29 CFR 1910.1200)

<u>Chemical Name</u>	<u>EXPOSURE LIMITS</u>					
	<u>OSHA PEL</u>		<u>ACGIH TLV</u>		<u>Supplier OEL</u>	
	<u>ppm</u>	<u>mg/m³</u>	<u>ppm</u>	<u>mg/m³</u>	<u>ppm</u>	<u>mg/m³</u>
1,2-transdichloroethylene (Trans)	TWA	NE ^[1]	200		NE	
			ppm			
	STEL	NE	200			
			ppm			
1,1,1,3,3-Pentafluoropropane (HFC-245fa)	TWA	NONE	NONE		300	
					ppm	
	STEL	NONE	NONE			
Ethanol	TWA	1000	1900	1000	1880	
		ppm	mg/m ³	ppm	mg/m ³	NL NL
	STEL	NL	NL mg/	NL	NL mg/	
		ppm	m ³	ppm	m ³	NL NL
1,1,1,2-Tetrafluoroethane (HFC-134a)	TWA	NE	NE		1,000	
					ppm ^[2]	

OSHA TABLE COMMENTS:

1. NOT ESTABLISHED

2. * (AEL)=Acceptable Exposure Limit as established by the manufacture

PERSONAL PROTECTIVE EQUIPMENT

EYES AND FACE: For normal conditions, wear safety glasses. Where there is reasonable probability of liquid contact, wear splash-proof goggles.

SKIN: The glove(s) listed below may provide protection against permeation. Gloves of other chemically resistant materials may not provide adequate protection. Viton, Solvex, Butyl, Buna, Neoprene.

RESPIRATORY: A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

OTHER USE PRECAUTIONS: Emergency shower and eyewash facility should be in close proximity.

9. PHYSICAL AND CHEMICAL PROPERTIES

ODOR: Faint ethereal odor

APPEARANCE: Clear, Colorless liquid

PERCENT VOLATILE: 100

VAPOR PRESSURE: 17.8 psi at 20°C (68°F)

EVAPORATION RATE: > 1 (TCE=1)
SPECIFIC GRAVITY: 1.229 (water=1)
(VOC): 858.6 g/L (non-exempt VOC)

10. STABILITY AND REACTIVITY

STABLE: YES

HAZARDOUS POLYMERIZATION: NO

CONDITIONS TO AVOID: Stable. However, may decompose if heated.

STABILITY: Stable.

POLYMERIZATION: Will not occur.

HAZARDOUS DECOMPOSITION PRODUCTS: When exposed to high temperatures or flames this product may form hydrochloric and hydrofluoric acids - possibly carbonyl halides.

INCOMPATIBLE MATERIALS: Oxidizing agents, alkalies and bases.

11. TOXICOLOGICAL INFORMATION

ACUTE

EYES: Moderately to severely irritating

DERMAL LD₅₀: Mildly to moderately irritating.

ORAL LD₅₀: Slight to very low toxicity.

INHALATION LC₅₀: Slight to very low toxicity.

TERATOGENIC EFFECTS: Test results indicate this compound/mixture is not teratogenic.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL DATA: There is limited information available on the environmental fate and effects of this material. The primary environmental concern for release is the impact on aquatic and terrestrial species. Due care should be taken to avoid the accidental release of this material into the environment.

ECOTOXICOLOGICAL INFORMATION: Invertebrate toxicity: LC50 (30 min) Photobacterium phosphoreum = 1540 ppm Microtoxicity test.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Recover by distillation or remove to permitted waste disposal facility. Comply with

Federal, State and Local regulations.

FOR LARGE SPILLS: Contaminated sawdust, vermiculite, or porous surfaces must be disposed of in a permitted hazardous waste management facility. Recovered liquids may be reprocessed or incinerated or must be treated in a permitted hazardous waste management facility.

GENERAL COMMENTS: Dispose of in a manner consistent with federal, state, and local regulations.

14. TRANSPORT INFORMATION

DOT (DEPARTMENT OF TRANSPORTATION)

PROPER SHIPPING NAME: CONSUMER COMMODITY ORM-D

PRIMARY HAZARD CLASS/DIVISION: No classification

UN/NA NUMBER: N/A

PACKING GROUP: N/A

AIR (ICAO/IATA)

PROPER SHIPPING NAME: CONSUMER COMMODITY ID8000

PRIMARY HAZARD CLASS/DIVISION: 9

UN/NA NUMBER: ID8000

PACKING GROUP: N/A

VESSEL (IMO/IMDG)

PROPER SHIPPING NAME: AEROSOLS IN LIMITED QUANTITIES OF CLASS 2

PRIMARY HAZARD CLASS/DIVISION: 2.2

UN/NA NUMBER: UN1950

IMDG NOTE: Page 2102

EUROPEAN TRANSPORTATION:

ADR/RID HAZARD CLASSIFICATION: 2.2

ADR/RID ITEM NUMBER: UN1950

15. REGULATORY INFORMATION

UNITED STATES

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

311/312 HAZARD CATEGORIES: IMMEDIATE / DELAYED

FIRE: NO **PRESSURE GENERATING:** YES **REACTIVITY:** NO **ACUTE:** YES
CHRONIC: YES

TITLE III NOTES: Not listed as an Extremely Hazardous Substance.

CERCLA (COMPREHENSIVE RESPONSE, COMPENSATION, AND LIABILITY ACT)

CERCLA REGULATORY: Releases to air, land, or water which exceed the RQ must be reported to the National Response Center [(800)424-8802] and to your Local Emergency Planning Committee.

CERCLA RQ: Trans-1,2-dichloroethylene is listed in Table 302.4 of 40 CFR Part 302 as a hazardous substance. Reportable Quantity = 1,000 lbs.

EPA

EPA RQ INGREDIENT: trans-1,2-dichloroethylene (# 156-60-5)

TSCA (TOXIC SUBSTANCE CONTROL ACT)

TSCA REGULATORY: This product is listed on the TSCA Inventory.

RCRA STATUS: D001

CANADA

WHMIS (WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM): This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

WHMIS CLASS: Class A, Class D2B.

EUROPEAN COMMUNITY

EEC LABEL SYMBOL AND CLASSIFICATION



R20 - Harmful by inhalation.

EEC Harmful - "Xn"



R36/37/38 - Irritating to eyes, respiratory system and skin.

EEC Irritant - "Xi"



R52/53 - Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

EEC Environment - "N"

CALIFORNIA PROPOSITION 65: This product does not contain any chemicals known to the State of California to cause cancer.

16. OTHER INFORMATION

APPROVED BY: Pierce A. Pillon **TITLE:** Chemist

REVISION SUMMARY Revision #: 8 This MSDS replaces the June 13, 2005 MSDS. Any changes in information are as follows: In Section 1 Product Code