SAFETY DATA SHEET

1. Product and Company Identification

Product number 601A

Material name **STINGER® KLEER GLASS CLEANER (AEROSOL)**

Revision date 01-17-2014

Company information STINGER CHEMICAL, LLC
905 LIVE OAK ST
HOUSTON, TX 77003 United States

Company phone 713-227-1340

Emergency telephone US 1-866-836-8855

Emergency telephone outside US 1-952-852-4646

Version # 01

Supersedes date 01-01-2013

2. Hazards Identification

Emergency overview WARNING

CONTENTS UNDER PRESSURE.
Aerosol. Pressurized container may explode when exposed to heat or flame. Prolonged exposure may cause chronic effects.

OSHA regulatory status This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).

Potential health effects

Routes of exposure Inhalation. Ingestion. Skin contact. Eye contact.

Eyes Contact with eyes may cause irritation. Health injuries are not known or expected under normal use.

Skin May be harmful if absorbed through skin.

Inhalation Intentional misuse by concentrating and inhaling the product can be harmful or fatal. Prolonged inhalation may be harmful.

Ingestion Exposure by ingestion of an aerosol is unlikely. Components of the product may be absorbed into the body by ingestion.

Target organs Blood. Central nervous system. Liver. Lungs. Respiratory system.

2-Butoxy ethanol may be absorbed through the skin in toxic amounts if contact is repeated and prolonged and may cause blood damage. These effects have not been observed in humans.

Chronic effects Unconsciousness. Shortness of breath. Cyanosis (blue tissue condition, nails, lips, and/or skin). May be harmful if absorbed through skin. May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue, mental confusion and blurred vision) and/or damage. May cause delayed lung injury.

Signs and symptoms Unconsciousness. Discomfort in the chest. Shortness of breath. Narcosis. Cyanosis (blue tissue condition, nails, lips, and/or skin). Decrease in motor functions. Behavioral changes. Coughing.

3. Composition / Information on Ingredients

Components	CAS #	Percent
2-Butoxyethanol	111-76-2	2.5 - 10
Ethyl Alcohol	64-17-5	2.5 - 10
Butane	106-97-8	1 - 2.5
Propane	74-98-6	1 - 2.5
Other components below reportable levels		90 - 100

4. First Aid Measures

First aid procedures

Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Skin contact	Remove and isolate contaminated clothing and shoes. Immediately flush skin with plenty of water. Get medical attention if irritation develops and persists. For minor skin contact, avoid spreading material on unaffected skin. Wash clothing separately before reuse.
Inhalation	If inhalation of gas/fume/vapor/dust/mist from the material is excessive (air concentration is greater than the TLV or health effects are noticed), immediately remove the affected person(s) to fresh air. Call a physician if symptoms develop or persist.
Ingestion	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Rinse mouth thoroughly. Never give anything by mouth to a victim who is unconscious or is having convulsions. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.
Notes to physician	Symptoms may be delayed.
General advice	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. If you feel unwell, seek medical advice (show the label where possible).

5. Fire Fighting Measures

Flammable properties	Not flammable by OSHA criteria.
Extinguishing media	
Suitable extinguishing media	Water.
Protection of firefighters	
Protective equipment and precautions for firefighters	Wear suitable protective equipment. Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk. Use water spray to cool unopened containers. Containers should be cooled with water to prevent vapor pressure build up.
Specific methods	Cool containers exposed to flames with water until well after the fire is out.

6. Accidental Release Measures

Personal precautions	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. For personal protection, see section 8 of the MSDS.
Environmental precautions	Do not contaminate water.
Methods for containment	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Stop leak if you can do so without risk. Move the cylinder to a safe and open area if the leak is irreparable. Prevent entry into waterways, sewer, basements or confined areas.
Methods for cleaning up	Should not be released into the environment. Stop the flow of material, if this is without risk. Isolate area until gas has dispersed. Following product recovery, flush area with water. For waste disposal, see section 13 of the MSDS.

7. Handling and Storage

Handling	Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. Do not re-use empty containers. Do not get this material in contact with skin. Avoid prolonged exposure. Use only in well-ventilated areas.
Storage	Store locked up. Contents under pressure. Do not expose to heat or store at temperatures above 120°F/49°C as can may burst. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. Store in a well-ventilated place. Keep away from food, drink and animal feedingstuffs. Store away from incompatible materials (see Section 10 of the MSDS). Level 1 Aerosol (NFPA 30B)

8. Exposure Controls / Personal Protection

Occupational exposure limits

ACGIH Biological Exposure Indices

Components	Type	Value
2-Butoxyethanol (CAS 111-76-2)	BEI	200 mg/g

US. ACGIH Threshold Limit Values

Components	Type	Value
2-Butoxyethanol (CAS 111-76-2)	TWA	20 ppm
Ethyl Alcohol (CAS 64-17-5)	STEL	1000 ppm

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
2-Butoxyethanol (CAS 111-76-2)	PEL	240 mg/m3
		50 ppm
Ethyl Alcohol (CAS 64-17-5)	PEL	1900 mg/m3
		1000 ppm
Propane (CAS 74-98-6)	PEL	1800 mg/m3
		1000 ppm

Engineering controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Personal protective equipment

Eye / face protection Face-shield.

Skin protection Wear chemical protective equipment that is specifically recommended by the manufacturer.

Respiratory protection If permissible levels are exceeded use NIOSH mechanical filter / organic vapor cartridge or an air-supplied respirator.

General hygiene considerations When using do not smoke. Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical & Chemical Properties

Appearance Clear.

Auto-ignition temperature Not available.

Boiling point 212 °F (100 °C) estimated

Color Colorless. Pale yellow

Flammability limits in air, upper, % by volume Not available.

Flammability limits in air, lower, % by volume Not available.

Flash point -156.00 °F (-104.44 °C) Propellant estimated

Form Aerosol.

Odor Butyl

Odor threshold Not available.

pH 9.5 - 10.5 estimated

Physical state Gas.

Solubility (water) Not available.

Specific gravity 0.97 estimated

Vapor pressure 80 - 100 psig @70F estimated

Other data

Aerosol spray enclosed space

Deflagration density	300000 g/cm3 estimated
Aerosol spray ignition distance	< 15 cm estimated
Heat of combustion	3.34 kJ/g estimated

10. Chemical Stability & Reactivity Information

Chemical stability	Material is stable under normal conditions.
Conditions to avoid	Heat, flames and sparks. Avoid temperatures exceeding the flash point.
Hazardous decomposition products	No hazardous decomposition products are known.
Possibility of hazardous reactions	Hazardous polymerization does not occur.

11. Toxicological Information

Toxicological data

Product	Species	Test Results
Gleme Glass Cleaner (CAS Mixture)		
Acute		
Dermal		
LD50	Rabbit	13840.8301 mg/kg, estimated
Inhalation		
LC50	Mouse	41337.3867 mg/l, 2 Hours, estimated
		24221.4531 mg/l, 7 Hours, estimated
		1156.17 mg/l, 4 Hours, estimated
	Rat	77781.5078 mg/l, 15 Minutes, estimated
		15570.9346 mg/l, 4 Hours, estimated
		3090.3162 mg/l/4h, estimated
Oral		
LD50	Dog	163.0496 g/kg, estimated
	Guinea pig	33.215 g/kg, estimated
	Mouse	41.5225 g/kg, estimated
	Rabbit	11.0704 g/kg, estimated
	Rat	19377.1621 mg/kg, estimated
Other		
LD50	Mouse	16119.9395 mg/kg, estimated
	Rabbit	9688.5811 mg/kg, estimated
	Rat	9222.9619 mg/kg, estimated

Components Species		Test Results
2-Butoxyethanol (CAS 111-76-2)		
Acute		
Dermal		
LD50	Rabbit	400 mg/kg
Inhalation		
LC50	Mouse	700 mg/l, 7 Hours
	Rat	450 mg/l, 4 Hours
Oral		
LD50	Guinea pig	1.2 g/kg
	Mouse	1.2 g/kg

Components		Test Results
Species		
	Rat	560 mg/kg
Other		
LD50	Mouse	1130 mg/kg
	Rabbit	280 mg/kg
	Rat	340 mg/kg
Butane (CAS 106-97-8)		
Acute		
Inhalation		
LC50	Mouse	680 mg/l, 2 Hours
	Rat	658 mg/l, 4 Hours
Ethyl Alcohol (CAS 64-17-5)		
Acute		
Inhalation		
LC50	Mouse	39 mg/l, 4 Hours
	Rat	20000 mg/l, 10 Hours
Oral		
LD50	Dog	5.5 g/kg
	Guinea pig	5.6 g/kg
	Mouse	3450 mg/kg
	Rat	6.2 g/kg
Other		
LD50	Mouse	933 mg/kg
	Rat	1440 mg/kg
Propane (CAS 74-98-6)		
Acute		
Inhalation		
LC50	Rat	> 1442.847 mg/l, 15 Minutes
		658 mg/l/4h

* Estimates for product may be based on additional component data not shown.

Local effects Blood disorder may occur after ingestion. Liver toxicity.

Chronic effects Hazardous by OSHA criteria. Prolonged inhalation may be harmful. Prolonged or repeated exposure may cause lung injury. May be harmful if absorbed through skin.

2-Butoxy ethanol may be absorbed through the skin in toxic amounts if contact is repeated and prolonged. These effects have not been observed in humans.

Repeated absorption may cause disorder of central nervous system, liver, kidneys and blood. Prolonged exposure may cause chronic effects.

Subchronic effects Blood disorder may occur after prolonged inhalation. Blood disorder may occur after ingestion. Blood disorder may occur after prolonged skin contact.

Carcinogenicity

ACGIH Carcinogens

2-Butoxyethanol (CAS 111-76-2)	A3 Confirmed animal carcinogen with unknown relevance to humans.
Ethyl Alcohol (CAS 64-17-5)	A3 Confirmed animal carcinogen with unknown relevance to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

2-Butoxyethanol (CAS 111-76-2)	3 Not classifiable as to carcinogenicity to humans.

Neurological effects Hazardous by OSHA criteria.

12. Ecological Information

Ecotoxicological data

Product		Species	Test Results
Gleme Glass Cleaner (CAS Mixture)			
Fish	LC50	Fish	42157.918 mg/L, 96 Hours, estimated
Components		**Species**	**Test Results**
2-Butoxyethanol (CAS 111-76-2)			
Aquatic			
Fish	LC50	Inland silverside (Menidia beryllina)	1250 mg/l, 96 hours
Ethyl Alcohol (CAS 64-17-5)			
Crustacea	EC50	Daphnia	11744.5 mg/L, 48 Hours
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	7.7 - 11.2 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	> 100 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Ecotoxicity Contains a substance which causes risk of hazardous effects to the environment.

Environmental effects An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Persistence and degradability Not available.

Bioaccumulation / Accumulation

Bioaccumulative potential

Octanol/water partition coefficient log Kow

2-Butoxyethanol	0.83
Butane	2.89
Ethyl Alcohol	-0.31
Propane	2.36

Partition coefficient

2-Butoxyethanol	0.83
Butane	2.89
Ethyl Alcohol	-0.31
Propane	2.36

13. Disposal Considerations

Waste codes The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Disposal instructions Contents under pressure. Do not puncture, incinerate or crush. Do not allow this material to drain into sewers/water supplies. Dispose in accordance with all applicable regulations.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport Information

DOT

Basic shipping requirements:

UN number UN1950

Proper shipping name Aerosols, non-flammable

Hazard class 2.2

Additional information:

Packaging exceptions LTD OTY

Packaging non bulk None

Packaging bulk None

This product meets the exception requirements of section 173.306 as a limited quantity and may be shipped as a limited quantity. Until 12/31/2020, the "Consumer Commodity - ORM-D" marking may still be used in place of the new limited quantity diamond mark for packages of UN 1950 Aerosols. Limited quantities require the limited quantity diamond mark on cartons after 12/31/20 and may be used now in place of the "Consumer Commodity ORM-D" marking and both may be displayed concurrently.

IATA

UN number	UN1950
UN proper shipping name	Aerosols, non-flammable
Transport hazard class(es)	2.2
Labels required	2.2
Packaging Exceptions	LTD QTY

IMDG

UN number	UN1950
UN proper shipping name	AEROSOLS
Transport hazard class(es)	2.2
Labels required	None
Packaging Exceptions	LTD QTY

DOT

IATA; IMDG

15. Regulatory Information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number

Not listed.

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

Not regulated.

DEA Exempt Chemical Mixtures Code Number

Not regulated.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA (Superfund) reportable quantity

None

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories	Immediate Hazard - Yes Delayed Hazard - Yes Fire Hazard - Yes Pressure Hazard - Yes Reactivity Hazard - No
Section 302 extremely hazardous substance	No
SARA 311/312 Hazardous chemical	No

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

State regulations

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

US - New Jersey RTK - Substances: Listed substance

2-Butoxyethanol (CAS 111-76-2)	Listed.
Butane (CAS 106-97-8)	Listed.
Ethyl Alcohol (CAS 64-17-5)	Listed.
Propane (CAS 74-98-6)	Listed.

US. Pennsylvania RTK - Hazardous Substances

2-Butoxyethanol (CAS 111-76-2)	Listed.
Butane (CAS 106-97-8)	Listed.
Ethyl Alcohol (CAS 64-17-5)	Listed.
Propane (CAS 74-98-6)	Listed.

16. Other Information

Disclaimer

The information in the sheet was written based on the best knowledge and experience currently available. The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

This data sheet contains changes from the previous version in section(s):

Product and Company Identification: Product and Company Identification
Fire Fighting Measures: Suitable extinguishing media
Physical & Chemical Properties: Multiple Properties
Physical & Chemical Properties: Appearance
Physical & Chemical Properties: Color
Physical & Chemical Properties: Odor
Chemical Stability & Reactivity Information: Hazardous decomposition products
Toxicological Information: Neurological effects
Toxicological Information: Subchronic effects
Disposal Considerations: Waste from residues / unused products
Disposal Considerations: Waste codes
Regulatory Information: US federal regulations