

# Material Safety Data Sheet



KEYSTONE CONCENTRATED NON-AMMONIATED GLASS CLEANER

## Section 1. Chemical product and company identification

**Trade name** : KEYSTONE CONCENTRATED NON-AMMONIATED GLASS CLEANER  
**Product use** : Glass Cleaner  
**Supplier** : Ecolab Co.  
5105 Tomken Road  
Mississauga ON L4W 2X5  
1-800-352-5326  
**Code** : 901786-02  
**Date of issue** : 21-January-2009

**EMERGENCY HEALTH INFORMATION: 1-800-328-0026**  
**Outside United States and Canada CALL 1-651-222-5352 (in USA)**

## Section 2. Composition, information on ingredients

<u>Name</u>	<u>CAS number</u>	<u>% by weight</u>
2-butoxyethanol	111-76-2	7 - 13
2-propanol, 1-propoxy-	1569-01-3	7 - 13
2-aminoethanol	141-43-5	1 - 5
methanol	67-56-1	0.1 - 1

## Section 3. Hazards identification

**Physical state** : Liquid. [Liquid.]  
**Emergency overview** : CAUTION!

MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION.  
HARMFUL OR FATAL IF SWALLOWED.  
ASPIRATION HAZARD.  
CAN ENTER LUNGS AND CAUSE DAMAGE.  
Can cause central nervous system (CNS) depression.  
COMBUSTIBLE LIQUID AND VAPOUR.

Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapours, spray or mists. Keep away from heat, sparks and flame. Use only with adequate ventilation. Keep container closed. Wash thoroughly after handling.

**Routes of entry** : Skin contact, Eye contact, Inhalation, Ingestion

### Potential acute health effects

**Eyes** : Moderately irritating to eyes.  
**Skin** : Moderately irritating to the skin.  
**Inhalation** : Moderately irritating to the respiratory system. High vapour concentrations can cause headaches, dizziness, drowsiness and nausea and may lead to unconsciousness.  
**Ingestion** : May be harmful if swallowed. Aspiration hazard if swallowed. Can enter lungs and cause damage. Ingestion may cause nausea, weakness and central nervous system effects.

See toxicological information (section 11)

## Section 4. First-aid measures

**Eye contact** : In case of contact, immediately flush eyes with plenty of water. Remove contact lenses and flush again. Get medical attention if irritation persists.  
**Skin contact** : In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if irritation persists. Wash clothing before reuse. Clean shoes thoroughly before reuse.  
**Inhalation** : If inhaled, remove to fresh air.

**Ingestion** : If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting. Never give anything by mouth to an unconscious person. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention immediately.

## Section 5. Fire-fighting measures

**Auto-ignition temperature** : Not available.  
**Flash point** : 60 °C (Closed cup)  
**Flammable limits** : Not available.  
**Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
nitrogen oxides

**Fire-fighting media and instructions** : Use dry chemical, CO<sub>2</sub>, water spray (fog) or foam.  
Use water spray to keep fire-exposed containers cool. Dyke area of fire to prevent runoff.  
Combustible liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Risk of explosion of the product in the presence of mechanical impact: Not available.

Risk of explosion of the product in the presence of static discharge: Not available.

## Section 6. Accidental release measures

**Personal precautions** : Use suitable protective equipment (section 8). Do not allow to enter drains or watercourses.

**Environmental precautions** : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

**Methods for cleaning up** : If emergency personnel are unavailable, contain spilt material. For small spills, add absorbent (soil may be used in the absence of other suitable materials) and use a non-sparking or explosion-proof means to transfer material to a sealable, appropriate container for disposal. For large spills, dyke spilt material or otherwise contain it to ensure runoff does not reach a waterway. Place spilt material in an appropriate container for disposal.

## Section 7. Handling and storage

**Handling** : Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapours, spray or mists. Keep away from heat, sparks and flame. To avoid fire, eliminate ignition sources. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling.

**Storage** : Keep out of reach of children. Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).  
Do not store above the following temperature: 50°C

## Section 8. Exposure controls/personal protection

**Engineering measures** : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits.

### Personal protection :

**Eyes** : Eye protection recommended.  
**Hands** : Use chemical-resistant, impervious gloves.  
**Skin** : No protective equipment is needed under normal use conditions.  
**Respiratory** : Avoid breathing vapours, spray or mists.

Name	Exposure limits
2-butoxyethanol	<p><b>CA Alberta Provincial (Canada, 6/2008). Absorbed through skin.</b> 8 hrs OEL: 97 mg/m<sup>3</sup> 8 hour(s). 8 hrs OEL: 20 ppm 8 hour(s).</p> <p><b>CA British Columbia Provincial (Canada, 6/2008).</b> TWA: 20 ppm 8 hour(s).</p> <p><b>CA Ontario Provincial (Canada, 6/2008). Absorbed through skin.</b> TWAEV: 20 ppm 8 hour(s).</p> <p><b>CA Quebec Provincial (Canada, 6/2008).</b> TWAEV: 97 mg/m<sup>3</sup> 8 hour(s). TWAEV: 20 ppm 8 hour(s).</p> <p><b>ACGIH TLV (United States, 1/2008).</b> TWA: 20 ppm 8 hour(s).</p>
2-aminoethanol	<p><b>CA Alberta Provincial (Canada, 6/2008).</b> 15 min OEL: 15 mg/m<sup>3</sup> 15 minute(s). 15 min OEL: 6 ppm 15 minute(s). 8 hrs OEL: 7.5 mg/m<sup>3</sup> 8 hour(s). 8 hrs OEL: 3 ppm 8 hour(s).</p> <p><b>CA British Columbia Provincial (Canada, 6/2008).</b> STEL: 6 ppm 15 minute(s). TWA: 3 ppm 8 hour(s).</p> <p><b>CA Ontario Provincial (Canada, 6/2008).</b> STEV: 15 mg/m<sup>3</sup> 15 minute(s). STEV: 6 ppm 15 minute(s). TWAEV: 7.5 mg/m<sup>3</sup> 8 hour(s). TWAEV: 3 ppm 8 hour(s).</p> <p><b>CA Quebec Provincial (Canada, 6/2008).</b> STEV: 15 mg/m<sup>3</sup> 15 minute(s). STEV: 6 ppm 15 minute(s). TWAEV: 7.5 mg/m<sup>3</sup> 8 hour(s). TWAEV: 3 ppm 8 hour(s).</p> <p><b>ACGIH TLV (United States, 1/2008).</b> STEL: 15 mg/m<sup>3</sup> 15 minute(s). STEL: 6 ppm 15 minute(s). TWA: 7.5 mg/m<sup>3</sup> 8 hour(s). TWA: 3 ppm 8 hour(s).</p>
methanol	<p><b>CA Alberta Provincial (Canada, 6/2008). Absorbed through skin.</b> 15 min OEL: 328 mg/m<sup>3</sup> 15 minute(s). 15 min OEL: 250 ppm 15 minute(s). 8 hrs OEL: 262 mg/m<sup>3</sup> 8 hour(s). 8 hrs OEL: 200 ppm 8 hour(s).</p> <p><b>CA British Columbia Provincial (Canada, 6/2008). Absorbed through skin.</b> STEL: 250 ppm 15 minute(s). TWA: 200 ppm 8 hour(s).</p> <p><b>CA Ontario Provincial (Canada, 6/2008). Absorbed through skin.</b> STEV: 325 mg/m<sup>3</sup> 15 minute(s). STEV: 250 ppm 15 minute(s). TWAEV: 260 mg/m<sup>3</sup> 8 hour(s). TWAEV: 200 ppm 8 hour(s).</p> <p><b>CA Quebec Provincial (Canada, 6/2008). Absorbed through skin.</b> STEV: 328 mg/m<sup>3</sup> 15 minute(s). STEV: 250 ppm 15 minute(s). TWAEV: 262 mg/m<sup>3</sup> 8 hour(s). TWAEV: 200 ppm 8 hour(s).</p> <p><b>ACGIH TLV (United States, 1/2008). Absorbed through skin.</b> STEL: 328 mg/m<sup>3</sup> 15 minute(s). STEL: 250 ppm 15 minute(s).</p>

TWA: 262 mg/m<sup>3</sup> 8 hour(s).

TWA: 200 ppm 8 hour(s).

## Section 9. Physical and chemical properties

Physical state	: Liquid. [Liquid.]
Colour	: Blue.
Odour	: Aromatic.
pH	: 10.7 [Conc. (% w/w): 100%]
Boiling/condensation point	: Not available.
Melting/freezing point	: Not available.
Relative density	: 0.995
Vapour pressure	: Not available.
Vapour density	: Not available.
Odour threshold	: Not available.
Evaporation rate	: Not available.
LogK <sub>ow</sub>	: Not available.

## Section 10. Stability and reactivity

Stability	: The product is stable. Under normal conditions of storage and use, hazardous polymerisation will not occur.
Conditions of instability	: Not available.
Reactivity	: Not available.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hazardous polymerisation	: Under normal conditions of storage and use, hazardous polymerisation will not occur.

## Section 11. Toxicological information

### Potential acute health effects

Eyes	: Moderately irritating to eyes.
Skin	: Moderately irritating to the skin.
Inhalation	: Moderately irritating to the respiratory system. High vapour concentrations can cause headaches, dizziness, drowsiness and nausea and may lead to unconsciousness.
Ingestion	: May be harmful if swallowed. Aspiration hazard if swallowed. Can enter lungs and cause damage. Ingestion may cause nausea, weakness and central nervous system effects.

### Potential chronic health effects

**Carcinogenic effects** : No known significant effects or critical hazards.

<u>Ingredient name</u>	<u>ACGIH</u>	<u>IARC</u>	<u>NTP</u>	<u>OSHA</u>
Not applicable.				

**Mutagenic effects** : No known significant effects or critical hazards.

**Teratogenic effects** : Hazardous by WHMIS criteria.

**Reproductive effects** : No known significant effects or critical hazards.

**Sensitization to Product** : No known significant effects or critical hazards.

**Synergistic products (toxicologically)** : Not available.

### Toxicity data

<u>Ingredient name</u>	<u>Test</u>	<u>Route</u>	<u>Result</u>	<u>Species</u>
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2-butoxyethanol	LD50	Dermal	230 uL/kg	Guinea pig
	LD50	Oral	320 mg/kg	Rabbit
	LD50	Oral	250 mg/kg	Rat
	LC50	Inhalation	2900 mg/m3	Rat
	LC50	Inhalation	450 ppm	Rat
2-propanol, 1-propoxy-	LD50	Dermal	3550 mg/kg	Rabbit
	LD50	Oral	2504 mg/kg	Rat
2-aminoethanol	LD50	Dermal	1 mL/kg	Rabbit
	LD50	Dermal	1018 mg/kg	Rabbit
	LD50	Oral	700 mg/kg	Mouse
	LD50	Oral	1 g/kg	Rabbit
	LD50	Oral	1720 mg/kg	Rat
methanol	LD50	Oral	620 mg/kg	Guinea pig
	LD50	Dermal	15800 mg/kg	Rabbit
	LD50	Oral	7300 mg/kg	Mouse
	LD50	Oral	7 g/kg	Monkey
	LD50	Oral	14200 mg/kg	Rabbit
	LD50	Oral	5600 mg/kg	Rat
	LDLo	Dermal	393 mg/kg	Monkey
	LDLo	Oral	10 mL/kg	Woman - Female
	LDLo	Oral	420 mg/kg	Mouse
	LDLo	Oral	7500 mg/kg	Rabbit
	LDLo	Oral	5000 mg/kg	Monkey
	LC50	Inhalation	64000 ppm	Rat

**Target organs** : Contains material which causes damage to the following organs: kidneys, liver.  
 Contains material which may cause damage to the following organs: blood, lymphatic system, upper respiratory tract, central nervous system (CNS).

## Section 12. Ecological information

### Ecotoxicity

<u>Ingredient name</u>	<u>Species</u>	<u>Period</u>	<u>Result</u>
2-butoxyethanol	Fish	96 hours	Acute LC50 1490 mg/L
2-aminoethanol	Fish	96 hours	Acute LC50 2070 mg/L
	Fish	96 hours	Acute LC50 329.16 mg/L
methanol	Fish	96 hours	Acute LC50 300 mg/L
	Fish	96 hours	Acute LC50 >300 mg/L
	Fish	96 hours	Acute LC50 >200 mg/L
	Fish	96 hours	Acute LC50 150 mg/L
	Daphnia - Water flea - Daphnia obtusa - Neonate - <24 hours	48 hours	Acute EC50 22200 to 23400 mg/L Fresh water
	Daphnia - Water flea - Daphnia magna - LARVAE - <24 hours	48 hours	Acute EC50 24500000 to 29350000 ug/L Fresh water
	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss - Juvenile (Fledgling, Hatchling, Weanling) - 0.813 g	96 hours	Acute EC50 13000000 to 13400000 ug/L Fresh water
	Fish - Bluegill - Lepomis macrochirus - Juvenile (Fledgling, Hatchling, Weanling) - 3.07 g	96 hours	Acute EC50 12700000 to 13700000 ug/L Fresh water
	Daphnia - Water flea - Daphnia magna - 6 to 24 hours	48 hours	Acute EC50 >10000000 ug/L Fresh water

Fish - Bluegill - Lepomis macrochirus - Juvenile (Fledgling, Hatchling, Weanling) - 3.07 g	96 hours	Acute LC50 15400000 to 17600000 ug/L Fresh water
Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss - 0.8 g	96 hours	Acute LC50 19 to 20 ml/L Fresh water
Daphnia - Water flea - Daphnia magna - Neonate - <24 hours	48 hours	Acute LC50 3289 to 4395 mg/L Fresh water
Fish - Hooknose - Agonus cataphractus - Adult	96 hours	Acute LC50 10000000 to 33000000 ug/L Marine water
Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss - Juvenile (Fledgling, Hatchling, Weanling) - 0.813 g	96 hours	Acute LC50 20100000 to 20700000 ug/L Fresh water
Crustaceans - Common shrimp, sand shrimp - Crangon crangon - Adult	48 hours	Acute LC50 2500000 ug/L Marine water
Fish - Fathead minnow - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling) - 0.2 to 0.5 g	96 hours	Acute LC50 >100000 ug/L Fresh water
Fish - Fathead minnow - Pimephales promelas - 0.12 g	96 hours	Acute LC50 28200000 ug/L Fresh water
Fish - Bleak - Alburnus alburnus - 8 to 10 cm	96 hours	Acute LC50 28000000 ug/L Marine water
Fish - Bleak - Alburnus alburnus - 8 cm	96 hours	Acute LC50 >28000000 ug/L Marine water

## Section 13. Disposal considerations

**Waste disposal** : The generation of waste should be avoided or minimised wherever possible. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

Consult your local or regional authorities.

## Section 14. Transport information

**Certain shipping modes or package sizes may have exceptions from the transport regulations. The classification provided may not reflect those exceptions and may not apply to all shipping modes or package sizes.**

**UN Classification** Not regulated.

See shipping documents for specific transportation information.

## Section 15. Regulatory information

**WHMIS** : Class B-3: Combustible liquid with a flash point between 37.8°C (100°F) and 93.3°C (200°F).  
Class D-2A: Material causing other toxic effects (Very toxic).  
Class D-2B: Material causing other toxic effects (Toxic).

This product has been classified in accordance with the hazard criteria of the *Controlled Products Regulations* and the MSDS contains all the information required by the *Controlled Products Regulations*.

## Section 16. Other information

**Date of issue** : 21-January-2009.  
**Responsible name** : Regulatory Affairs  
1-800-352-5326  
**Date of previous issue** : 08-May-2006.

### Notice to reader

The above information is believed to be correct with respect to the formula used to manufacture the product in the country of origin. As data, standards, and regulations change, and conditions of use and handling are beyond our control, NO WARRANTY, EXPRESS OR IMPLIED, IS MADE AS TO THE COMPLETENESS OR CONTINUING ACCURACY OF THIS INFORMATION.