Material Safety Data Sheet

GROTAN BK

1. Product and company identification

Product name : GROTAN BK

Product code : 30310

Chemical name : 2,2',2"-(hexahydro-1,3,5-triazine-1,3,5-triyl)triethanol

Synonym : Hexahydro-1,3,5-tris(2-hydroxyethyl)-s-triazine

Product type : Liquid.

Material uses : Metalworking Micro-biocide

Supplier : Troy Chemical Company Ltd.
242 Applewood Crescent, Unit 14
Concord, Ontario
L4K 4E5 CANADA
Tel: 1-800-994-7045
Fax: 1-905-760-7904

Manufacturer : Troy Chemical Company Ltd.
242 Applewood Crescent, Unit 14
Concord, Ontario
L4K 4E5 CANADA

In case of emergency : CHEMTREC - Tel: +1(800)424 9300 (24 hours)

Validation date : 8/17/2015

Print date : 8/17/2015

2. Hazards identification

Emergency overview

Physical state : Liquid.

Color : Clear. Colorless. Yellowish.

Odor : Characteristic. [Slight]

Signal word : WARNING!

Hazard statements : CAUSES EYE IRRITATION. MAY CAUSE ALLERGIC SKIN REACTION. MAY BE HARMFUL IF SWALLOWED. MAY CAUSE SKIN IRRITATION. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE.

Precautionary measures : Do not breathe vapor or mist. Do not ingest. Do not eat, drink or smoke when using this product. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.

Routes of entry : Not available.

Potential acute health effects

Inhalation : Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Ingestion : Harmful if swallowed.

Skin : Slightly irritating to the skin. May cause sensitization by skin contact.

Eyes : Severely irritating to eyes. Risk of serious damage to eyes.

Potential chronic health effects

Chronic effects : Contains material that can cause target organ damage. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

2. Hazards identification

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Target organs : Contains material which causes damage to the following organs: upper respiratory tract, skin, central nervous system (CNS), eye, lens or cornea.
Contains material which may cause damage to the following organs: lungs.

Over-exposure signs/symptoms

Inhalation : No specific data.

Ingestion : No specific data.

Skin : Adverse symptoms may include the following:
irritation
redness

Eyes : Adverse symptoms may include the following:
pain or irritation
watering
redness

Medical conditions aggravated by over-exposure : Pre-existing skin disorders and disorders involving any other target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

See toxicological information (Section 11)

3. Composition/information on ingredients

Name	CAS number	%
Hexahydro-1,3,5-tris(2-hydroxyethyl)-s-triazine 2-aminoethanol	4719-04-4 141-43-5	78.5 1 - 3

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4. First aid measures

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. 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. Clean shoes thoroughly before reuse. Get medical attention immediately.

Inhalation : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Ingestion : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

5. Fire-fighting measures

Flammability of the product : In a fire or if heated, a pressure increase will occur and the container may burst.

Extinguishing media

Suitable : Use an extinguishing agent suitable for the surrounding fire.

Not suitable : None known.

Special exposure hazards : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides

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.

Special remarks on fire hazards : Excessive heat >147°C (>297°F) will result in decomposition to formaldehyde.

Special remarks on explosion hazards : Not available.

6. Accidental release measures

Personal precautions : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

Environmental precautions : Avoid dispersal of spilled 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

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

7. Handling and storage

Handling : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

7. Handling and storage

Storage : Store between the following temperatures: -5 to 30°C (23 to 86°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8. Exposure controls/personal protection

Occupational exposure limits		TWA (8 hours)			STEL (15 mins)			Ceiling			
Ingredient	List name	ppm	mg/m³	Other	ppm	mg/m³	Other	ppm	mg/m³	Other	Notations
2-aminoethanol	US ACGIH 1/2009	3	7.5	-	6	15	-	-	-	-	[3]
	AB 4/2009	3	7.5	-	6	15	-	-	-	-	
	BC 9/2009	3	-	-	6	-	-	-	-	-	
	ON 8/2008	3	7.5	-	6	15	-	-	-	-	
	QC 6/2008	3	7.5	-	6	15	-	-	-	-	

[3]Skin sensitization

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Engineering measures : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protection

Respiratory : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hands : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Eyes : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles. Recommended: chemical splash goggles and/or face shield.

Skin : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

8. Exposure controls/personal protection

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Other protection : Not available.

Personal protective equipment (Pictograms) : Not available.

9. Physical and chemical properties

Physical state : Liquid.

Flash point : Closed cup: Not applicable.

Burning time : Not applicable.

Burning rate : Not applicable.

Auto-ignition temperature : Not available.

Flammable limits : Not available.

Color : Clear. Colorless. Yellowish.

Odor : Characteristic. [Slight]

Taste : Not available.

Molecular weight : Not applicable.

Molecular formula : Not applicable.

pH : 10.3 to 11.3

Boiling/condensation point : 110.5°C (230.9°F)

Melting/freezing point : Not available.

Critical temperature : Not available.

Relative density : 1.145 to 1.16

Vapor pressure : 1.3 to 2.4 kPa (10 to 18 mm Hg) [room temperature]

Vapor density : >1 [Air = 1]

Volatility : 100% (w/w)

Odor threshold : Not available.

Evaporation rate : Not available.

SADT : Not available.

Viscosity : Dynamic (room temperature): 60 to 100 mPa·s (60 to 100 cP)
Kinematic (room temperature): 0.6 to 1 cm^2/s (60 to 100 cSt)

Ionicity (in water) : Not available.

Dispersibility properties : Not available.

Solubility : Easily soluble in the following materials: cold water and hot water.

Physical/chemical properties comments : Not available.

10. Stability and reactivity

Chemical stability : The product is stable.

Conditions to avoid : No specific data.

Incompatible materials : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

10. Stability and reactivity

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

11. Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
GROTAN BK	LD50 Dermal LD50 Oral	Rat Rat - Female	>2000 mg/kg 1009 to 3950 mg/kg	- -

Conclusion/Summary : Not available.

Chronic toxicity

Not available.

Conclusion/Summary : Not available.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
GROTAN BK	Eyes - Cornea opacity Skin - Mild irritant	Rabbit Rabbit	59 -	- -	21 days -

Conclusion/Summary : Not available.

Sensitizer

Product/ingredient name	Route of exposure	Species	Result
GROTAN BK	skin	Mouse	Sensitizing

Conclusion/Summary : Not available.

Carcinogenicity

Not available.

Conclusion/Summary : Not available.

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
2-aminoethanol	-	-	-	None.	-	-

Mutagenicity

Product/ingredient name	Test	Experiment	Result
GROTAN BK	-	Experiment: In vivo Subject: Mammalian-Animal	Negative

Conclusion/Summary : Not available.

Teratogenicity

Not available.

Conclusion/Summary : Not available.

Reproductive toxicity

Not available.

Conclusion/Summary : Not available.

Synergistic products : Not available.

12. Ecological information

Ecotoxicity : Readily biodegradable This product shows a low bioaccumulation potential.

Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
GROTAN BK	Acute EC50 10 to 100 mg/l Acute LC50 10 to 100 mg/l	Daphnia Fish	48 hours 96 hours

Conclusion/Summary : Not available.

Persistence/degradability

Product/ingredient name	Test	Result	Dose	Inoculum
2-aminoethanol	-	>90 % - Readily - 21 days	-	-

Conclusion/Summary : Not available.

Partition coefficient: n-octanol/water : -1.3

Bioconcentration factor : Not available.

Mobility : Not available.

Toxicity of the products of biodegradation : Not available.

Other adverse effects : No known significant effects or critical hazards.

13. Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. 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. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Waste stream : Not available.

RCRA classification : Not available.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT Classification	Not regulated.	-	-	-		-
TDG Classification	Not regulated.	-	-	-		-
Mexico Classification	Not regulated.	-	-	-		-

14. Transport information

ADR/RID Class	Not regulated.	-	-	-		-
IMDG Class	Not regulated.	-	-	-		-
IATA-DGR Class	Not regulated.	-	-	-		-

PG* : Packing group

15. Regulatory information

United States inventory (TSCA 8b) : All components are listed or exempted.

WHMIS (Canada) : Class D-2B: Material causing other toxic effects (Toxic).
Class E: Corrosive material

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.

Note : Based on additional dermal sensitization testing it has been determined that this product is NOT a skin sensitizer at concentrations less than 25%. Therefore, end use formulations containing this product at concentrations less than 25% will not be required to address skin sensitization on their label or SDS (with the provision of no additional substances classified as skin sensitizers at levels that would trigger labeling or classification requirements).

This product is registered under the Pest Control Products Act and is therefore exempt from WHMIS.

Registration number : 11691

PMRA Signal word: WARNING

Symbol : POISON

Precautionary statements:

DANGER: CORROSIVE TO EYES. Wear eye protection when handling. Do not get in eyes. Harmful if swallowed. Avoid skin contact. Keep out of reach of children and unauthorized persons

Canadian lists

Canadian NPRI : None of the components are listed.

CEPA Toxic substances : None of the components are listed.

Canada inventory : All components are listed or exempted.

16. Other information

Date of printing : **8/17/2015**

Date of issue : 8/17/2015

Date of previous issue : 8/14/2015

Version : 2

Indicates information that has changed from previously issued version.

Notice to reader

16. Other information

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.