



G.K. Chemical Specialties Co. Inc.
90 Barbados Blvd.
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Material SAFETY DATA SHEET

PRODUCT NAME: G-440 Brick and Concrete Cleaner Concentrate

HEALTH HAZARD RATING:	SERIOUS HAZARD: major injury likely unless prompt action is taken and medical treatment is given
FLAMMABILITY HAZARD RATING:	MINIMAL HAZARD - materials which are normally stable and will not burn unless heated
REACTIVITY HAZARD RATING:	SLIGHT HAZARD – materials which are normally stable, but can become unstable at high temperatures and pressures. These materials may react with water, but will not release energy violently.
PERSONAL PROTECTION:	Face shield + Gloves + Vapour respirator + Full Protective Suit + Boots
HAZARD ALERT SIGN:	HEALTH HAZARD – Extreme danger FIRE HAZARD – Will not burn REACTIVITY – unstable if heated SPECIFIC HAZARD – Acid, Corrosive

SECTION I – MATERIAL IDENTIFICATION AND USE / IDENTIFICATION DE LA MATIÈRE ET USAGE

MATERIAL NAME / IDENTIFIER – NOM / IDENTIFICATION DE LA MATIÈRE

G-440 Brick and Concrete Cleaner Concentrate

MANUFACTURER'S NAME AND ADDRESS/ NOM DU FABRICANT – ADRESSE EMERGENCY PHONE NO. / N° DE TÉLÉPHONE D'URGENCE	G.K. Chemical Specialties Co. Inc. 90 Barbados Blvd. Scarborough, Ontario M1J 1K9 (416) 261-7182 / 905 427-7605
SUPPLIER'S NAME AND ADDRESS/ NOM DU FOURNISSEUR - ADRESSE EMERGENCY PHONE NO. / N° DE TELEPHONE DURGENCE	
CHEMICAL NAME / DÉNOMINATION CHIMIQUE	Not Applicable
CHEMICAL FAMILY / FAMILLE CHIMIQUE	Acid
CHEMICAL FORMULA / FORMULE CHIMIQUE	Not Applicable
TRADE NAME AND SYNONYMS / APPELLATION COMMERCIALE ET SYNONYMES	Not Applicable
MOLECULAR WEIGHT / POIDS MOLÉCULAIRE	Not Applicable
MATERIAL USE / UTILISATION DE LA MATIÈRE	Cleaning

G.K. Chemical Specialties Co. Inc. has compiled the information and recommendations contained in this Material Safety Data Sheet from sources believed to be reliable and to represent the most reasonable current opinion on the subject when the MSDS was prepared. Although reasonable precautions have been taken in the preparation of the data contained herein, it is offered solely for your information, consideration and investigation.

G.K. Chemical Specialties Co. Inc. extends no warranty and assumes no responsibility as to the accuracy of the content or sufficiency of the information and expressly disclaims all liability for reliance thereon. This MSDS provides guidelines for the safe handling of this product. It does not and cannot advise on all possible situations, therefore, your specific use of this product should be evaluated to determine if additional precautions are required. Individuals exposed to this product should read and understand this information and be provided pertinent training prior to working with this product.

G.K. Chemical Specialties Co. Inc. assumes no responsibility for personal injury or property damage to vendors, users or third parties caused by the material. Such vendors or users assume all risks associated with the use of the material.

INGREDIENTS. This MSDS, under section of Ingredients, contains all ingredients listed under INGREDIENT DISCLOSURE LIST P.C. 1987-2719, 20/1/88 CANADA GAZETTE PART II VOL. 122, No 2 of HAZARDOUS PRODUCT ACT.

Percentage range of concentration of ingredients is expressed as percentage by weight of the total weight of the product. Ingredient List does not necessarily list all ingredients in the formulation and does not necessarily list all ingredient range of concentration, other than ingredients under the Disclosure List.

T.L.V. (units) or Threshold Limit Values refer to the limiting concentrations recommended by the Ministry of Labour. These values were adopted by the American Conference of Governmental Industrial Hygienists (A.C.G.I.H.). The figures refer to time-weighted average concentrations as P.P.M. (V/V) or mg/m³ for a normal working day or at any time for some materials.

“C.A.S REG. No.” means the identification number assigned to a chemical substance by the Chemical Abstracts Service Division of the American Chemical Society.

“LC 50” means the concentration of a substance in air that when administered by means of inhalation over a specified length of time in an animal assay, is expected to cause the death of 50 per cent of a defined animal population.

“LD 50” means the single dose of a substance that, when administered by a defined route in an animal assay, is expected to cause death of 50 per cent of a defined animal population.

FLASH POINT. The minimum temperature at which a substance gives off flammable vapors which in contact with spark or flame will ignite.

SECTION II – HAZARDOUS INGREDIENTS OF MATERIAL / INGRÉDIENTS DANGEREUX DE LA MATIÈRE

HAZARDOUS INGREDIENTS / INGRÉDIENTS DANGEREUX	APPROXIMATE CONCENTRATION% CONCENTRATION APROXIMATIVE %	C.A.S., N.A. OR U.N. NUMBERS / NUMERO CAS NA OU CNU	LD50 {SPECIFY SPECIES & ROUTE} DL50 {PRÉCISER L'ESPECE ET LA VOIE D'ADMINISTRATION}	LC 50 {SPECIFY SPECIES & ROUTE} CL50 {PRÉCISER L'ESPECE ET LA VOIE D'ADMINISTRATION}
Hydrofluoric acid or Hydrogen fluoride	20-40	7664-39-3	LD50 (Oral) 80 mg/kgm (Guinea pig) TLV 3 PPM (2.5 mg/m ³) Short term inhalation 3 PPM for 15 minute	
Phosphoric acid	10-30	7664-38-2	50 – 500 mg/kgm (Rat) Toxicity by ingestion	
Ethylene glycol Monobutyl ether	10-30	111-76-2	500 – 5000 mg/kgm (Rat) Toxicity by ingestion	
Non Ionic Surfactant	2-7	9036-19-5	LD50 (Oral Rat) 1800 mg/kgm	
Ester Type Surfactant	2-7	Non Hazardous		
Antifoam, water inert	Balance	Non Hazardous		

SECTION III – PHYSICAL DATA FOR MATERIAL / CARACTÉRISTIQUES PHYSIQUES DE LA MATIÈRE

PHYSICAL STATE / ÉTAT PHYSIQUE	Liquid
ODOUR AND APPEARANCE / ODEUR ET APPARENCE	Clear liquid – acid odour
ODOUR THRESHOLD (P.P.M.) / SEUIL DE L'ODEUR (PPM)	Not Applicable
SPECIFIC GRAVITY / DENSITE RELATIVE	1.07 ± 0.05 gm/cm ³
VAPOUR PRESSURE [MM] / TENSION DE VAPEUR [MM]	< 25
VAPOUR DENSITY [AIRE = 1] / DENSITE DE VAPEUR [AIR =1]	> 1
EVAPORATION RATE / TAUX D'ÉVAPORATION	Slower than Water
BOILING POINT [°C] / POINT D'ÉBULLITION [°C]	100 °C
FREEZING POINT [°C] / POINT DE CONGELATION [°C]	-5 °C
SOLUBILITY IN WATER [20°C] / SOLUBILITÉ DANS L'EAU [20°C]	Infinite
% VOLATILE [BY VOLUME] / % VOLATILITÉ [PAR VOLUME]	70 ± 1%
PH	3.85 1 part to 3 parts water
COEFFICIENT OF WATER / OIL DISTRIBUTION / COEFFICIENT DE RÉPARTITION EAU / HUILE	Not Applicable

SECTION IV – FIRE AND EXPLOSION HAZARD OF MATERIAL/RISQUES D'INCENDIE ET D'EXPLOSION DU MATÉRIEL

FLAMMABILITY / INFLAMMABILITÉ __ YES / OUI _X_ NO/NON IF YES, UNDER WHICH CONDITIONS? / SI OUI, DANS QUELLES CONDITIONS?	
MEANS OF EXTINCTION / MOYENS D'EXTINCTION	Not Applicable
SPECIAL PROCEDURES / MARCHE A SUIVRE SPÉCIALE	Product by itself is non-flammable. There is, however, a latent fire of explosion hazard when in contact with metals due to generation of hydrogen gas. Fire-fighting equipment: Pressure demand self-contained respiratory equipment.
FLASHPOINT [°C] AND METHOD / POINT D'ÉCLAIR [°C] ET MÉTHODE DE DÉTERMINATION	Not Applicable

UPPER EXPLOSION LIMIT [% BY VOLUME]/ SEUIL MAXIMAL D'INFLAMMABILITÉ [% PAR VOLUME]	Not Applicable
LOWER EXPLOSION LIMIT [% BY VOLUME]/ SEUIL MINIMAL D'INFLAMMABILITÉ [% PAR VOLUME]	Not Applicable
AUTOIGNITION TEMPERATURE [°C] / TEMPÉRATURE D'AUTO-INFLAMMATION [°C]	Not Applicable
HAZARDOUS COMBUSTION PRODUCTS / PRODUITS DE COMBUSTION DANGEREUX	Toxic & irritating vapours are generated when heated

EXPLOSION DATA / DONNÉES SUR L'EXPLOSIBILITÉ

SENSITIVITY TO MECHANICAL IMPACT / SENSIBILITÉ AUX CHOCS	Not Applicable
SENSITIVITY TO STATIC DISCHARGE / SENSIBILITÉ AUX DÉCHARGES ÉLECTROSTATIQUES	Not Applicable

SECTION V – REACTIVITY DATA / DONNÉES SUR LA RÉACTIVITÉ

CHEMICAL STABILITY / STABILITÉ CHIMIQUE <u>X</u> YES / OUI <u>___</u> NO/NON IF NO, UNDER WHICH CONDITIONS? / SI NON-, DANS QUELLES CONDISIONS?	However, contact with metals may cause generation of explosive or flammable gas (Hydrogen)
INCOMPATIBILITY TO OTHER SUBSTANCES / INCOMPATIBILITÉ AVEC D'AUTRES SUBSTANCES <u>X</u> YES / OUI <u>___</u> NO/NON IF SO, WHICH ONES? / SI OUI, AVEC LESQUELLES?	Avoid base, avoid contact with most metals, avoid oxidizing materials, can oxidize to fluorine.
REACTIVITY AND UNDER WHAT CONDITIONS / RÉACTIVITÉ – DANS QUELLES CONDITIONS?	Corrosive to most metals with evolution of hydrogen gas, which may form explosive mixture with air.
HAZARDOUS DECOMPOSITION PRODUCTS / PRODUITS DE DÉCOMPOSITION DANGEREUX	Not pertinent

SECTION VI —TOXICOLOGICAL PROPERTIES OF MATERIAL / PROPRIÉTÉS TOXICOLOGIQUES DE LA MATIÈRE

ROUTE OF ENTRY / VOIE D'ADMINISTRATION

<u>X</u> SKIN CONTACT / CONTACT AVEC LA PEAU	<u>X</u> SKIN ABSORPTION / ABSORPTION PAR LA PEAU
<u>X</u> EYE CONTACT / CONTACT OCULAIRE	<u>X</u> INHALATION ACUTE / INHALATION AIGUE
INHALATION CHRONIC / INHALATION CHRONIQUE	X INGESTION

EFFECTS OF ACUTE EXPOSURE TO MATERIAL / EFFETS DE L'EXPOSITION AIGUE A LA MATIERE	INHALATION: Mild exposure: Can irritate nose, throat and respiratory system. Severe exposure: Can cause nose and throat burns, lung inflammation and resulting in death due to hypocalcaemia LC50's (Animal) 456-1774 PPM (1H) INGESTION: Can cause severe mouth, throat and stomach burns. Can affect kidney function and be fatal if swallowed. Profound and possible fatal hypocalcaemia is likely to occur unless medical treatment is prompt. SKIN CONTACT: Both liquid and vapor can cause severe burns which may not be immediately painful or visible. Hydrofluoric acid will penetrate skin and attack underlying tissues and bone. Large burns (over 25 in²) may also cause hypocalcemia, which, in rare instances has been fatal. Solutions as dilute as 2% or lower may cause burns. EYE CONTACT: Both liquid and vapour can cause irritation or corneal burns or conjunctivitis. Solutions as dilute as 2% or lower may cause burns. May cause permanent impairment of vision.
EFFECTS OF CHRONIC EXPOSURE TO MATERIAL / EFFETS DE L'EXPOSITION CHRONIQUE A LA MATIERE	Bone and joint changes in humans (fluorosis)

MATERIAL NAME / IDENTIFIER - NOM / IDENTIFICATION DE LA MATIÈRE↓**G-440 Brick and Concrete Cleaner Concentrate**

LD 50 OF MATERIAL [SPECIFY SPECIES & ROUTE] / LD50 DE LA MATIÈRE [PRÉCISER L'ESPECE ET LA VOIE D'ADMINISTRATION]	200 mg/kgm (Guinea pig)
LC50 OF MATERIAL [SPECIFY SPECIES & ROUTE] LC50 DE LA MATIÈRE / [PRÉCISER L'ESPECE ET LA VOIE D'ADMINISTRATION]	(Animal) 1300-5000 PPM / 1 hour
EXPOSURE [LIMITS] / LIMITS D'EXPOSITION	Short term inhalation 9 PPM for 25 minute
IRRITANCY OF MATERIAL/PROPRIÉTÉ IRRITANTE DE LA MATIÈRE	Eyes, Eyes, Respiratory tract
SENSITIZATION OF MATERIAL / SENSIBILISATION A LA MATIÈRE	Skin, Eyes
SYNERGISTIC MATERIALS / MATÉRES SYNERGIQUES	None Known
CARCINOGENICITY, REPRODUCTIVE EFFECTS, TERATOGENICITY, MUTAGENCY / CANCÉROGÉNÉCITÉ, EFFETS NOCIFS SUR LA REPRODUCTION, TÉRATOGÉNÉCITÉ, MUTAGÉNÉCITÉ	Not regulated as carcinogen

SECTION VII – PREVENTIVES MEASURES / MESURES PRÉVENTIVES**PERSONAL PROTECTIVE EQUIPMENT / MATÉRIEL PERSONNEL DE PROTECTION**

GLOVES (SPECIFY) GANTS [PRÉCISER]	Acid resistant impervious
EYE [SPECIFY] / YEUX [PRÉCISER]	Glasses, Goggles
RESPIRATORY (SPECIFY) / APPAREIL RESPIRATOIRE (PRÉCISÉR)	NIOSH Approved respiratory protection is required in absence of proper environmental control. For emergencies, a self-contained breathing apparatus or a full-face respirator is recommended.
OTHER (SPECIFY) / AUTRES (PRCISER)	Full protective suit is recommended when there is a chance this product could come in contact with clothing.
ENGINEERING CONTROLS [E.G. VENTILATION, ENCLOSED PROCESS, SPECIFY] / MÉCANISMES TECHNIQUES [EX. VENTILATION, OPÉRATION EN MILIEU FERMÉ, PRÉCISER]	Control vapour to 9 PPM or less.
LEAK AND SPILL PROCEDURE / MESURES EN CAS DE FUITE OU DE DÉVERSEMENT	Contain liquid; use limestone, lime or soda ash to cautiously neutralize. Dispose off residue (or slurry) by removal to an approved chemical wastes landfill or by an approved disposal contractor.
WASTE DISPOSAL / ÉLIMINATION DES RÉSIDUS	Comply with federal, provincial and local law; Hydrofluoric acid is harmful to aquatic life.
HANDLING PROCEDURES AND EQUIPMENTS / MÉTHODES ET ÉQUIPEMENT POUR LA MANUTENTION	Prevent all contact with eyes and skin. Avoid breathing irritating vapors.
STORAGE REQUIREMENTS / EXIGENCES D'ENTREPOSAGE	Store in closed containers away from children.
SPECIAL SHIPPING INFORMATION / RENSEIGNEMENTS SPÉCIAUX POUR L'EXPÉDITION	Hydrofluoric Acid solution, not more than 60% hydrogen fluoride PIN 1790, Class 8, 6.1, 9.2, Packing Group II

SECTION VIII – FIRST AID MEASURES / PREMIERS SOINS

Read attached section of first aid measure

ADDITIONAL INFORMATION / RENSEIGNEMENTS SUPPLÉMENTAIRES
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Read attached label of product carefully Read attached information by pharma science Read attached information on hydrogen fluoride

SECTION IX – PREPARATION DATE OF M.S.D.S. / FICHE SIGNALÉTIQUE

PREPARED BY: Gus Kaklamanos - CHEMIST

TELEPHONE NO.: (416) 2617182

DATE: January 5, 2015

ADDITIONAL NOTES OR REFERENCES / NOTES ADDITIONNELLES OU RÉFÉRENCES:

WHMIS Classification: Class E,
Class D, Div. 2A, 2B