



G.K. Chemical Specialties Co. Inc.
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MATERIAL SAFETY DATA SHEET

PRODUCT NAME: G-28 Clear Ammonia

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:	Splash goggles + Gloves + Synthetic apron + Vapour respirator
HAZARD ALERT SIGN:	HEALTH HAZARD – Extreme danger FIRE HAZARD – Will not burn REACTIVITY – Unstable if heated SPECIFIC HAZARD – Corrosive

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

MATERIAL NAME / IDENTIFIÉ – NOM / IDENTIFICATION DE LA MATIÈRE

G-28 Clear Ammonia

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	Ammonia
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}
Ammonium Hydroxide	7 – 13	1336-21-6	LD50, Rat Oral, 350 mg/kgm	TLV 25 PPM
Water	Balance		Short Term Inhalation 100 PPM for 30 min 500 PPM for 10 min	

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

PHYSICAL STATE / ÉTAT PHYSIQUE	Liquid
ODOUR AND APPEARANCE / ODEUR ET APPARENCE	Clear colour, ammonia odour
ODOUR THRESHOLD (P.P.M.) / SEUIL DE L'ODEUR (PPM)	Not Applicable
SPECIFIC GRAVITY / DENSITE RELATIVE	0.91 ± 0.02 gm/cm ³
VAPOUR PRESSURE [MM] / TENSION DE VAPEUR [MM]	< 25 at 20 °C
VAPOUR DENSITY [AIRE = 1] / DENSITE DE VAPEUR [AIR =1]	~ Water
EVAPORATION RATE / TAUX D'ÉVAPORATION	~ Water
BOILING POINT [°C] / POINT D'ÉBULLITION [°C]	27 °C
FREEZING POINT [°C] / POINT DE CONGELATION [°C]	0 °C
SOLUBILITY IN WATER [20°C] / SOLUBILITÉ DANS L'EAU [20°C]	Infinite
% VOLATILE [BY VOLUME] / % VOLATILITÉ [PAR VOLUME]	100
PH	12 ± 0.5
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 CONDIONS?	Vaporized ammonia can be explosive between 16% and 25% concentration by volume in air. Aqueous ammonia does not present a fire or explosion hazard.
MEANS OF EXTINCTION / MOYENS D'EXTINCTION	None Required
SPECIAL PROCEDURES / MARCHE A SUIVRE SPÉCIALE	If product is involved in a fire from another cause, a spray or fog of water is effective in removing NH ₃ from atmosphere. Self-contained breathing apparatus, or NH ₃ type canister masks should be used by fire and emergency personnel.
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	None

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 <input checked="" type="checkbox"/> YES / OUI <input type="checkbox"/> NO/NON IF NO, UNDER WHICH CONDITIONS? / SI NON-, DANS QUELLES CONDISIONS?	
INCOMPATIBILITY TO OTHER SUBSTANCES / INCOMPATIBILITÉ AVEC D'AUTRES SUBSTANCES <input checked="" type="checkbox"/> YES / OUI <input type="checkbox"/> NO/NON IF SO, WHICH ONES? / SI OUI, AVEC LESQUELLES?	Strong mineral acids, mercury, silver nitrate, dimethyl sulfate, silver oxide, copper
REACTIVITY AND UNDER WHAT CONDITIONS / RÉACTIVITÉ – DANS QUELLES CONDITIONS?	Corrosive to copper, aluminum and their alloys
HAZARDOUS DECOMPOSITION PRODUCTS / PRODUITS DE DÉCOMPOSITION DANGEREUX	

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

ROUTE OF ENTRY / VOIE D'ADMINISTRATION

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

EFFECTS OF ACUTE EXPOSURE TO MATERIAL / EFFETS DE L'EXPOSITION AIGUE A LA MATIERE	INHALATION: Toxic in high concentrations of vapour irritating to mucous membranes of respiratory tract. May cause pulmonary edema after high exposure. EYE CONTACT: Severe irritant. Gas or liquid will injure or destroy eye tissue if not immediately removed. SKIN CONTACT: Gas or liquid causes skin damage (burns). INGESTION: Toxic if ingested.
EFFECTS OF CHRONIC EXPOSURE TO MATERIAL / EFFETS DE L'EXPOSITION CHRONIQUE A LA MATIERE	Contact of liquid or vapor with skin, mucous membranes, lungs causes marked local irritation. Ingestion causes burning pain in the mouth, throat, stomach and thorax. Vomiting of blood or passage of loose stools containing blood follows this. Breathing difficulty, convulsions, and shock may result. Ingestion of 12 – 16 ml may be fatal.

MATERIAL NAME / IDENTIFIÉRIER - NOM / IDENTIFICATION DE LA MATIÉRE↓**G-28 Clear Ammonia**

LD 50 OF MATERIAL [SPECIFY SPECIES & ROUTE] / LD50 DE LA MATIÉRE [PRÉCISER L'ESPECE ET LA VOIE D'ADMINISTRATION]	1400 mg/kgm Oral Rat
LC50 OF MATERIAL [SPECIFY SPECIES & ROUTE] LC50 DE LA MATIÉRE / [PRÉCISER L'ESPECE ET LA VOIE D'ADMINISTRATION]	Not Established
EXPOSURE [LIMITS] / LIMITS D'EXPOSITION	100 PPM
IRRITANCY OF MATERIAL/PROPRIÉTÉ IRRITANTE DE LA MATIÉRE	Eyes, skin, respiratory tract
SENSITIZATION OF MATERIAL / SENSIBILISATION A LA MATIÉRE	Eye, Skin, Respiratory tract
SYNERGISTIC MATERIALS / MATÉRES SYNERGIQUES	Not Established
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]	Impervious
EYE [SPECIFY] / YEUX [PRÉCISER]	Glasses, goggles
RESPIRATORY (SPECIFY) / APPAREIL RESPIRATOIRE (PRÉCISÉR)	Full face gas masks with ammonia canister or supplied air respirators are required in absence of proper environmental control, or proper ventilation system
OTHER (SPECIFY) / AUTRES (PRCISER)	Full protective suit is recommended whenever there is a possibility that this product could come in contact with clothing or skin.
ENGINEERING CONTROLS [E.G. VENTILATION, ENCLOSED PROCESS, SPECIFY] / MÉCANISMES TECHNIQUES [EX. VENTILATION, OPÉRATION EN MILIEU FERMÉ, PRÉCISER]	Local ventilation
LEAK AND SPILL PROCEDURE / MESURES EN CAS DE FUITE OU DE DÉVERSEMENT	Small quantities may be flushed with copious amounts of water. In case of large amounts contain liquid. Use diluted acetic or phosphoric acid to cautiously neutralize.
WASTE DISPOSAL / ÉLIMINATION DES RÉSIDUS	Small Waste – Sanitary Sewer Large amounts – neutralize prior to allowing this product to any sanitary system
HANDLING PROCEDURES AND EQUIPMENTS / MÉTHODES ET ÉQUIPEMENT POUR LA MANUTENTION	Avoid any contact with eyes and skin. Avoid inhalation of fumes
STORAGE REQUIREMENTS / EXIGENCES D'ENTREPOSAGE	Store in a cool room 0 °C – 20 °C Store in closed containers Keep away from children
SPECIAL SHIPPING INFORMATION / RENSEIGNEMENTS SPÉCIAUX POUR L'EXPÉDITION	Ammonia solutions or ammonium hydroxide with not more than 10% ammonia class 9.1 PIN #2672 PKG III

SECTION VIII – FIRST AID MEASURES / PREMIERS SOINS

EYE CONTACT: Immediately flush with lots of running water for 15 minutes, lifting the upper and lower eyelids occasionally. Get immediate medical attention.

SKIN CONTACT: Immediately wash with lots of water. If available neutralize with diluted vinegar or lemon juice. Remove contaminated clothing and shoes: wash before reuse. Get medical attention.

IF SWALLOWED: Do not induce vomiting. If conscious, give lots of water or milk, then diluted vinegar, lemon juice or orange juice. Get immediate medical attention. Do not give anything by mouth to an unconscious or convulsing person.

INHALATION: Remove to fresh air. Give artificial respiration if not breathing. Oxygen may be given if necessary. Call a physician and/or transport to a medical facility.

**ADDITIONAL INFORMATION /
RENSEIGNEMENTS SUPPLÉMENTAIRES**

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 F
Class D, 2A, 2B