

HEALTH and SAFETY DATA SHEET

Product Name

ISOPROPANOL OR ISOPROPYL ALCOHOL

I.P.A.

HEALTH HAZARD RATING CHART

0	MINIMAL HAZARD	no significant risk to health
1	SLIGHT HAZARD	Irritation or minor reversible injury possible
2	MODERATE HAZARD	Temporary or minor injury may occur
3	SERIOUS HAZARD	major injury likely unless prompt action is taken and medical treatment is given
4	SEVERE HAZARD	life threatening major or permanent damage may result from single or repeated exposures

The Information contained in this Form is for Occupational Safety and Health Purposes only. Product Formulas and Information provided shall be held in strict confidence as detailed in Section 34(1) (A) to (D) of the Ontario Occupational Health and Safety Act, 1978.

HEALTH	1
FLAMMABILITY	3
REACTIVITY	0
PERSONAL PROTECTION	G

REACTIVITY HAZARD RATING CHART

0	MINIMAL HAZARD	materials which are normally stable, even under fire conditions, and which will not react with water.
1	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.
2	MODERATE HAZARD	materials which in themselves are normally unstable and will readily undergo violent chemical change, but will not detonate. These materials may also react violently with water.
3	SERIOUS HAZARD	materials which are capable of detonation or explosive reaction, but require a strong initiating source, or must be heated under confinement before ignition, or materials which react explosively with water.
4	SEVERE HAZARD	these materials are readily capable of detonation or explosive decomposition at normal temperatures and pressures.

FLAMMABILITY HAZARD RATING CHART

0	MINIMAL HAZARD	materials which are normally stable and will not burn unless heated
1	SLIGHT HAZARD	materials that must be preheated before ignition will occur. Flammable liquids in this category will have flash points (the lowest temperature at which ignition will occur) at or above 200°F (NFPA Class II and Class IIA)
2	MODERATE HAZARD	material which must be moderately heated before ignition will occur, including flammable liquids with flash points at or above 100°F and below 200°F. (NFPA Class II and Class IIA)
3	SERIOUS HAZARD	materials capable of ignition under almost all normal temperature conditions, including flammable liquids with flash points below 73°F and boiling points above 100°F as well as liquids with flash points between 73°F and 100°F (NFPA Classes IB and IC)
4	SEVERE HAZARD	very flammable gases or very volatile flammable liquids with flash points below 73°F and boiling points below 100°F (NFPA Class IA)

PERSONAL PROTECTION INDEX

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x	Ask your supervisor for specialized handling directions

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Safety Glasses	Splash Goggles	Face Shield	Airline Hood or Mask	Gloves	Synthetic Apron
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Dust Respirator	Vapor Respirator	Combination Dust & Vapor Respirator	Full Protective Suit		Boots

HAZARD ALERT SIGN SIGNAL DES RISQUES DE DANGER

<p>HEALTH HAZARD RISQUE POUR LA SANTÉ</p> <p>4 — Deadly / Mortel 3 — Extreme danger Danger extrême 2 — Hazardous / Hasardeux 1 — Slightly hazardous Légèrement hasardeux 0 — Normal material Matière normale</p>	<p>FIRE HAZARD RISQUE D'INCENDIE</p> <p>Flash Points / Points d'éclair</p> <p>4 — Below 73° F Intérieur à 73° F 3 — Below 100° F Intérieur à 100° F 2 — Below 200° F Intérieur à 200° F 1 — Above 200° F Supérieur à 200° F 0 — Will not burn Incombustible</p>
<p>SPECIFIC HAZARD RISQUE SPÉCIFIQUE</p> <p>Oxidizer OXY Comburent Acid / Acide ACID Alkali / Alkali ALK Corrosive COR Corrosif</p> <p>Use NO WATER Radiation Hazard NE PAS utiliser d'EAU Risque de radiations W</p>	<p>REACTIVITY REACTIVITÉ</p> <p>4 — May detonate Peut exploser 3 — Shock and heat may detonate Peut exploser par choc, chaleur 2 — Violent chemical change Réaction chimique violente 1 — Unstable if heated Instable si chauffé 0 — Stable</p>

G.K. Chemical Specialties Co. Ltd. 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. Ltd. 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. Ltd. assumes no responsibility for personal injury or property damage to vendees, users or third parties caused by the material. Such vendees 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 are 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.

MATERIAL NAME / IDENTIFIER — NOM / IDENTIFICATION DE LA MATIÈRE

ISOPROPANOL OR ISOPROPYL ALCOHOL

I.P.A.

MANUFACTURER'S NAME/NOM DU FABRICANT		SUPPLIER'S NAME/NOM DU FOURNISSEUR	
STREET ADDRESS/ADRESSE		G.K.CHEMICAL SPECIALTIES	
CITY/VILLE		STREET ADDRESS/ADRESSE	
PROVINCE		90 BARBADOS BLVD	
CITY/VILLE		CITY/VILLE	
PROVINCE		PROVINCE	
SCARBOROUGH		ONTARIO	
POSTAL CODE/COE POSTAL		POSTAL CODE/COE POSTAL	
EMERGENCY PHONE NO./N° DE TÉLÉPHONE D'URGENCE		EMERGENCY PHONE NO./N° DE TÉLÉPHONE D'URGENCE	
M1J 1K9		(416)261-7182/(905)427-7605	

SECTION I : PRODUCT IDENTIFICATION

Code: I3620

Rev: 00

Product Name: ISOPROPANOL 99%
 General/Generic Name: ALCOHOL
 TDG Hazard Classification: FLAMMABLE LIQUID
 Appearance And Odour: CLEAR LIQUID, ALCOHOL ODOUR
 Product Use: SOLVENT
 Whmis Classification: CLASS B DIV 2, CLASS D, DIV. 2, SUB. B.

SECTION II: HAZARDOUS INGREDIENT(S)

INGREDIENT:	% W/W	TLV	CAS NO.
ISOPROPANOL	99	400PPM	67-63-0

Note: * Recommended
 N/E- Not established, N/A- Not applicable

SECTION III: PHYSICAL/CHEMICAL DATA

INITIAL BOIL-POINT:	COMPONENT(-)	83	DEG.C.	181	DEG.F.	@ 760 MMHG
VAPOUR PRESSURE:	COMPONENT(-)	33	MMHG	20	DEG.C.	68 DEG.F.
VAPOUR DENSITY:	(X)HEAVIER THAN AIR				(-)LIGHTER THAN AIR	
EVAPORATION RATE:	(X)SLOWER THAN ETHER				(-)FASTER THAN ETHTER	
PHYSICAL STATE:	LIQUID					
ODOUR THRESHOLD:	N/E		FREEZING POINT:	N/E	DEG.C.	PH: N/E
SPECIFIC GRAVITY:	0.78 @ 20		DEG.C./68	DEG.F.		
% VOLATILE:	100					

SECTION IV: FIRE & EXPLOSION INFORMATION

FLASH POINT: (X)CLOSED CUP (-)OPEN CUP 13 DEG.C. 55 DEG.F.
 FLAMMABLE LIMITS: LFL: 2.0 % UFL: 12.0 % (-)N/E COMPONENT(-)
 EXTINGUISHING MEDIA: (X)FOAM (X)WATER FOG (X)DRY CHEMICAL (X)CARBON DIOXIDE

HAZARDOUS DECOMPOSITION PRODUCTS:
 MAY FORM TOXIC MATERIALS:
 CARBON DIOXIDE AND CARBON MONOXIDE

FIREFIGHTING PROCEDURES:
 WEAR SELF-CONTAINED BREATHING APPARATUS WITH A FULL FACEPIECE
 OPERATED IN THE POSITIVE PRESSURE DEMAND MODE WHEN FIGHTING FIRES.

SPECIAL FIRE & EXPLOSION HAZARDS:

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FIRE & EXPLOSION INFORMATION

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VAPORS ARE HEAVIER THAN AIR AND MAY TRAVEL ALONG THE GROUND OR BE MOVED BY VENTILATION AND IGNITED BY HEAT, PILOT LIGHTS, OTHER FLAMES AND IGNITION SOURCES AT LOCATIONS DISTANT FROM MATERIAL HANDLING POINT.
NEVER USE WELDING OR CUTTING TORCH ON OR NEAR DRUM (EVEN EMPTY) BECAUSE PRODUCT (EVEN JUST RESIDUE) CAN IGNITE EXPLOSIVELY.
ALL FIVE GALLON PAILS AND LARGER METAL CONTAINERS INCLUDING TANK CARS AND TANK TRUCKS SHOULD BE GROUNDED AND/OR BONDED WHEN MATERIAL IS TRANSFERRED.

SECTION V: HEALTH & HAZARD DATA

THRESHOLD LIMIT VALUE:
SEE SECTION II

EFFECTS OF ACUTE OVEREXPOSURE:

EYES-
EYES - CAN CAUSE MODERATE IRRITATION, REDNESS, TEARING.

SKIN-
SKIN - PROLONGED OR REPEATED CONTACT CAUSES SEVERE IRRITATION, DEFATTING, DERMATITIS.

BREATHING-
BREATHING - EXCESSIVE INHALATION OF VAPORS CAN CAUSE NASAL AND RESPIRATORY IRRITATION AND CENTRAL NERVOUS SYSTEM EFFECTS INCLUDING DIZZINESS, WEAKNESS, FATIGUE, NAUSEA, HEADACHE AND POSSIBLE UNCONSCIOUSNESS.

SWALLOWING-
SWALLOWING - CAN CAUSE GASTROINTESTINAL IRRITATION, NAUSEA, VOMITING, AND DIARRHEA.

FIRST AID:
IF ON SKIN-
THOROUGHLY WASH EXPOSED AREA WITH SOAP AND WATER. REMOVE CONTAMINATED CLOTHING. LAUNDRY CONTAMINATED CLOTHING BEFORE RE-USE.

IF IN EYES-
FLUSH WITH LARGE AMOUNTS OF WATER, LIFTING UPPER AND LOWER LIDS OCCASIONALLY.

IF SWALLOWED-
INDUCE VOMITING BY EITHER GIVING IPECAC SYRUP OR BY PLACING FINGER AT BACK OF THROAT. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. GET MEDICAL ATTENTION.

IF BREATHED-
IF AFFECTED, REMOVE INDIVIDUAL TO FRESH AIR. IF BREATHING IS DIFFICULT, ADMINISTER OXYGEN. IF BREATHING HAS STOPPED, GIVE ARTIFICIAL RESPIRATION. KEEP PERSON WARM, QUIET, AND GET MEDICAL ATTENTION.

SECTION VI: REACTIVITY DATA

HAZARDOUS POLYMERIZATION:
CANNOT OCCUR.

STABILITY:
STABLE.

INCOMPATIBILITY:
AVOID CONTACT WITH:

STRONG OXIDIZING AGENTS.

SECTION VII: SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

SMALL SPILL:

ABSORB LIQUID ON PAPER, VERMICULITE, FLOOR ABSORBENT, OR OTHER ABSORBENT MATERIAL AND TRANSFER TO HOOD.

LARGE SPILL:

ELIMINATE ALL IGNITION SOURCES (FLARES, FLAMES INCLUDING PILOT LIGHTS, ELECTRICAL SPARKS). PERSONS NOT WEARING PROTECTIVE EQUIPMENT SHOULD BE EXCLUDED FROM AREA OF SPILL UNTIL CLEAN-UP HAS BEEN COMPLETED. STOP SPILL AT SOURCE, DIKE AREA OF SPILL TO PREVENT SPREADING, PUMP LIQUID TO SALVAGE TANK. REMAINING LIQUID MAY BE TAKEN UP ON SAND, CLAY, EARTH, FLOOR ABSORBENT, OR OTHER ABSORBENT MATERIAL AND SHOVELLED INTO CONTAINERS.

WASTE DISPOSAL METHOD:

SMALL SPILL:

DESTROY BY INCINERATION IN ACCORDANCE WITH APPLICABLE REGULATIONS.

LARGE SPILL:

DESTROY BY INCINERATION IN ACCORDANCE WITH APPLICABLE REGULATIONS.

SECTION VIII: PROTECTIVE EQUIPMENT TO BE USED

RESPIRATORY PROTECTION:

IF WORKPLACE EXPOSURE LIMIT(S) OF PRODUCT OR ANY COMPONENT IS EXCEEDED (SEE SECTION II), A NIOSH/MSHA APPROVED AIR SUPPLIED RESPIRATOR IS ADVISED IN ABSENCE OF PROPER ENVIRONMENTAL CONTROL. OSHA REGULATIONS ALSO PERMIT OTHER NIOSH/MSHA RESPIRATORS (NEGATIVE PRESSURE TYPE) UNDER SPECIFIED CONDITIONS (SEE YOUR SAFETY EQUIPMENT SUPPLIER). ENGINEERING OR ADMINISTRATIVE CONTROLS SHOULD BE IMPLEMENTED TO REDUCE EXPOSURE.

VENTILATION:

PROVIDE SUFFICIENT MECHANICAL (GENERAL AND/OR LOCAL EXHAUST) VENTILATION TO MAINTAIN EXPOSURE BELOW TLV(S).

PROTECTIVE GLOVES:

WEAR RESISTANT GLOVES SUCH AS:
NATURAL RUBBER
NEOPRENE

EYE PROTECTION:

CHEMICAL SPLASH GOGGLES IN COMPLIANCE WITH OSHA REGULATIONS ARE ADVISED; HOWEVER, OSHA REGULATIONS ALSO PERMIT OTHER TYPE SAFETY GLASSES. (CONSULT YOUR SAFETY EQUIPMENT SUPPLIER)

OTHER PROTECTIVE EQUIPMENT:

NORMAL WORK CLOTHING COVERING ARMS AND LEGS.

SECTION IX: TOXICOLOGICAL DATA, SPECIAL PRECAUTIONS OR OTHER COMMENTS

ISOPROPRANOL LD:50(ORL-RAT) 4420-5840mg/kg LC:50(INH-RAT) 22627ppm/4h
CONTAINERS OF THIS MATERIAL MAY BE HAZARDOUS WHEN EMPTIED. SINCE

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TOXICOLOGICAL DATA, SPECIAL PRECAUTIONS OR OTHER COMMENTS Page 4

EMPTIED CONTAINERS RETAIN PRODUCT RESIDUES (VAPOR, LIQUID, AND/OR SOLID), ALL HAZARD PRECAUTIONS GIVEN IN THE DATA SHEET MUST BE OBSERVED.

THE INFORMATION ACCUMULATED HEREIN IS BELIEVED TO BE ACCURATE BUT IS NOT WARRANTED TO BE WHETHER ORIGINATING WITH THE COMPANY OR NOT. RECIPIENTS ARE ADVISED TO CONFIRM IN ADVANCE OF NEED THAT THE INFORMATION IS CURRENT, APPLICABLE, AND SUITABLE TO THEIR CIRCUMSTANCES.

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