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 \* CANADIAN CENTRE FOR OCCUPATIONAL HEALTH AND SAFETY \*  
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ISN: 1036644

Product Name(s): TOTAL

PRODUCT CODE: 04138

Date of MSDS: 1994-07-07

Manufacturer(s):

VARN PRODUCTS COMPANY, INC

115 Advance Boulevard  
 Brampton Ontario  
 Canada L6T 4H9  
 Telephone: 905-792-8900 (INFORMATION)

Emergency Telephone: 613-996-6666 (CANUTEC)

NOTE FROM VARN PRODUCTS COMPANY, INC: THE INFORMATION ON THIS MSDS IS  
 BELIEVED TO BE ACCURATE AS OF THE DATE SHOWN IN SECTION I. SINCE THE USE OF  
 THIS PRODUCT IS NOT IN THE CONTROL OF VARN, IT IS THE USER'S RESPONSIBILITY  
 TO DETERMINE WHAT CONSTITUTES SAFE USAGE FOR A PARTICULAR PRODUCT. THIS  
 FORM MAY BE REPRODUCED IN QUANTITIES NECESSARY TO MEET YOUR REQUIREMENTS.

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MATERIAL SAFETY DATA SHEET

TOTAL

SECTION I - PRODUCT IDENTIFICATION

PRODUCT NAME: TOTAL HMIS CODES: H F R P  
 1 0 0 A

PRODUCT CODE: 04138

PRODUCT USE : LITHOGRAPHIC FOUNTAIN CONCENTRATE

WHMIS CLASSIFICATION: D2A

DATE PRINTED: JULY 7, 1994

NAME OF PREPARER: VARN PRODUCTS CO.

SECTION II - HAZARDOUS INGREDIENTS

REPORTABLE COMPONENTS	CAS NUMBER	VAPOR PRESSURE kPa Hg @ TEMP	WEIGHT PERCENT
* ETHYLENE GLYCOL	107-21-1	.12 20 deg C	4.0
OSHA PEL: 50ppm ACGIH TLV: 50ppm, CEILING ORAL LD50 (RAT): 4700 mg/Kg			
DIETHYLENE GLYCOL ETHYL ETHER	111-90-0	0.01 20 deg C	2.0
OSHA PEL: N/E			

ACGIH TLV: N/E  
ORAL LD50 (RAT): 6500 mg/Kg

\* Indicates chemical(s) which may be subject to reporting on the National Pollutant Release Inventory under Section 16 of the Canadian Environmental Protection Act.

THIS PRODUCT, AS SOLD, CONTAINS LESS THAN 0.3% NON-HAZARDOUS TRI-VALENT CHROMIUM. FOUNTAIN SOLUTIONS MADE WITH THIS CONCENTRATE TYPICALLY CONTAINS BETWEEN 20 AND 30 ppm OF CHROMIUM +3. N/E = Not Established, N/AV = Not Available. All ingredients listed on CEPA Domestic Substance List (DSL) and USEPA TSCA inventory.

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SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS  
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BOILING POINT: 100.1 deg C  
SPECIFIC GRAVITY (H2O=1): 1.11  
VAPOR DENSITY: HEAVIER THAN AIR  
EVAPORATION RATE: SLOWER THAN WATER  
MATERIAL V.O.C.: 64 g/l  
SOLUBILITY IN WATER: 100%  
APPEARANCE AND ODOR: DARK BLUE-GREEN LIQUID - MILD ODOUR  
FREEZING POINT: <0 deg C  
pH: >3  
COEFFICIENT OF WATER/OIL DIST: NOT AVAILABLE  
ODOR THRESHOLD >50 ppm

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SECTION IV - FIRE AND EXPLOSION HAZARD DATA  
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FLASH POINT: NONE METHOD USED: NOT APPLICABLE  
FLAMMABLE LIMITS IN AIR BY VOLUME - LOWER: N/A UPPER: N/A

EXTINGUISHING MEDIA: USE ANY EXTINGUISHING MEDIA.

SPECIAL FIREFIGHTING PROCEDURES

AS IN ANY FIRE, WEAR SELF-CONTAINED BREATHING APPARATUS, (MSHA APPROVED) AND FULL PROTECTIVE GEAR.

UNUSUAL FIRE AND EXPLOSION HAZARDS

NONE KNOWN.

T.D.G.R. CLASS: NOT REGULATED

SENSITIVITY TO IMPACT: THIS PRODUCT IS NOT SENSITIVE TO IMPACT.

SENSITIVITY TO STATIC DISCHARGE: THIS PRODUCT IS NOT SENSITIVE TO STATIC DISCHARGE.

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SECTION V - REACTIVITY DATA  
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STABILITY: STABLE

CONDITIONS TO AVOID: AVOID CONDITIONS OF EXCESS HEAT TO PROLONG SHELF LIFE.

INCOMPATIBILITY (MATERIALS TO AVOID): AVOID MIXING WITH STRONG OXIDIZING MATERIALS.

HAZARDOUS DECOMPOSITION OR BYPRODUCTS: NONE KNOWN.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

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SECTION VI - HEALTH HAZARD DATA  
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INHALATION HEALTH RISKS AND SYMPTOMS OF EXPOSURE

NO HAZARD EXISTS IN NORMAL INDUSTRIAL USE.

SKIN AND EYE CONTACT HEALTH RISKS AND SYMPTOMS OF EXPOSURE

PROLONGED OR REPEATED CONTACT WITH SKIN MAY CAUSE IRRITATION. CONTACT MAY CAUSE EYE IRRITATION.

SKIN ABSORPTION HEALTH RISKS AND SYMPTOMS OF EXPOSURE

SKIN CONTACT MAY RESULT IN ABSORPTION BUT SYMPTOMS OF TOXICITY ARE NOT ANTICIPATED BY THIS ROUTE ALONE UNDER NORMAL CONDITIONS OF USE.

INGESTION HEALTH RISKS AND SYMPTOMS OF EXPOSURE

INGREDIENTS TO THIS PRODUCT ARE TOXIC. INGESTION MAY CAUSE NAUSEA, SEVERE GASTRO-INTESTINAL IRRITATION, DIARRHEA AND POSSIBLE DAMAGE TO VITAL ORGANS. FOLLOW FIRST AID PROCEDURES.

HEALTH HAZARDS (ACUTE AND CHRONIC)

THIS PRODUCT MAY CAUSE MILD TO MODERATE IRRITATION UPON CONTACT WITH EYES AND MILD IRRITATION TO SKIN.

CARCINOGENICITY: THIS PRODUCT CONTAINS NO KNOWN CARCINOGENS.

NTP CARCINOGEN: No

IARC MONOGRAPHS: No

OSHA REGULATED: No

TERATOGENICITY: ETHYLENE GLYCOL HAS BEEN IDENTIFIED AS A PROBABLE BIRTH DEFECT HAZARD BASED ON LABORATORY ANIMAL DATA.

MUTAGENICITY: THIS PRODUCT CONTAINS NO CHEMICALS KNOWN TO CAUSE DAMAGE TO CHROMOSOMES.

TOXICOLOGICALLY SYNERGISTIC PRODUCTS: THERE IS NO DATA AVAILABLE.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE

SKIN CONTACT MAY AGGRAVATE PRE-EXISTING DERMATITIS.

EMERGENCY AND FIRST AID PROCEDURES:

EYES: FLUSH EYES WITH PLENTY OF WATER WHILE REMOVING CONTACT LENSES. HOLD EYELIDS OPEN AND CONTINUE FLUSHING WITH WATER FOR 15 MINUTES. SEEK MEDICAL ATTENTION IF IRRITATION PERSISTS.

SKIN: WASH WITH SOAP AND WATER.

INHALATION: NOT A NORMAL ROUTE OF ENTRY

INGESTION: IF VICTIM IS CONSCIOUS, INDUCE VOMITING AS DIRECTED BY MEDICAL PERSONNEL. OBTAIN MEDICAL ATTENTION IMMEDIATELY.

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SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE  
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STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

SOAK UP ON ABSORBENT OR TRANSFER LIQUID INTO A CLOSED CONTAINER FOR LATER DISPOSAL. DIKE SPILL AND KEEP FROM ENTERING SEWER.

WASTE DISPOSAL METHOD

THIS PRODUCT, AS SUPPLIED, BECOMES A WASTE IT IS REGULATED BY THE CANADIAN ENVIRONMENTAL PROTECTION ACT AS A SPECIAL WASTE. DO NOT POUR UNDILUTED PRODUCT, AS SUPPLIED, DOWN SEWER. CONTACT A LICENSED HAZARDOUS WASTE HAULER FOR MORE INFORMATION.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

STORE IN A COOL, DRY AREA AWAY FROM SUNLIGHT AND EXCESS HEAT. PROTECT FROM

FREEZING. AVOID SKIN AND EYE CONTACT.

OTHER PRECAUTIONS

WHEN TRANSFERRING OR USING THIS PRODUCT, WEAR PROPER PERSONAL PROTECTIVE EQUIPMENT.

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SECTION VIII - CONTROL MEASURES

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RESPIRATORY PROTECTION

NO SPECIAL PROTECTION IS REQUIRED UNDER NORMAL CONDITIONS OF USE.

VENTILATION

GOOD GENERAL VENTILATION SHOULD BE SUFFICIENT TO CONTROL AIRBORNE LEVELS.

PROTECTIVE GLOVES

NOT NECESSARY FOR NORMAL USE. FOR EXCESSIVE EXPOSURE USE BUTYL OR NITRILE RUBBER GLOVES.

EYE PROTECTION

SAFETY GLASSES WITH SIDE SHIELDS.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT

NOT NECESSARY.

WORK/HYGIENIC PRACTICES

AFTER USE OF THIS PRODUCT, WASH WITH SOAP AND WATER BEFORE EATING, DRINKING, SMOKING, OR USE OF TOILET FACILITIES.