

CARMEL GROUP INC.

MATERIAL SAFETY DATA SHEET

SECTION 1 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Ink Valve-Activated Marker (Various Colors)		Revision date 17 Dec 09
Previous revision date 12 Dec 07	Product code PM20104 to FM20112 (See p.6)	Material use Ink valve activated markers are popular for marking paper and cardboard materials.
Manufacturer's Name and issuing location CARMEL GROUP INC. 10220 ARMAND LAVERGNE, MONTRÉAL, QUEBEC, CANADA, H1H 3N4 Tel : 514-270-5377 Fax : 514-270-2025 Internet : www.carmelindustries.com		EMERGENCY PHONE NUMBER CHEMTREC USA 800-424-9300 International 1-703-527-3887

SECTION 2 – CONPOSITION / INFORMATION ON INGREDIENTS

Preparation Hazards and Classification

Canada : This is not a controlled product under WHMIS. This product meets the definition of a "Manufactured article" and is not subject to the regulation of the Hazardous Products Act.

USA : This product is not a hazardous material as defined by 29 CFR1910.1200 the OSHA Hazard Communication Evaluation. This product meets the definition of an "article".

European Communities (EC) : This product is not classified as dangerous according to Directive 1999/45/EC and its amendments. This product contains a small amount of a liquid preparation which contains dangerous ingredients. However there is no expected release of the liquid during use of the product and there is a barrier preventing exposure of the user and the environment.

Hazardous Ingredients	Risk phrases (Sect 16)	Note (Sect 15)	CAS #	Amount	Exposure Limits (ppm)				
					OSHA PEL-TWA	NIOSH REL-TWA	NIOSH REL-STEL	ACGIH TLV-TWA	ACGIH TLV-STEL
Ethanol	R11	1,2,3,4,5,6,7	64-17-5	18-32%	1000	1000	N/AV	1000	N/AV
n-Propyl Acetate	R11	1,2,3,4,5,6	109-60-4	2-26%	200	200	250	200	250
Propylene Glycol Methyl Ether	R10	1,2,3,4,5,6	107-98-2	10-18%	100	100	150	100	150
n-Propyl Alcohol	R11, R41, R67	1,2,3,4,5,6	71-23-8	2-14%	200	200	250	200	400
Nitrocellulose Resin	R10, R20/21, R38	2,3,4	9004-70-0	6-11%	N/L	N/L	N/L	N/L	N/L
Isopropyl Acetate	R11, R36, R66, R67	1,2,3,4,5,6	108-21-4	2-11%	250	250	310	100	200
Isopropyl Alcohol	R11, R36, R67	1,2,3,4,5,6	67-63-0	3-6%	400	400	500	200	400
Dipropylene Glycol Methyl Ether (PM20001, PM20008, PM20013)	R10	1,2,3,4,5,6	34590-94-8	1-2%	100	100	150	100	150

SECTION 3 – HAZARD IDENTIFICATION

Emergency Overview

Flammable Liquid and Vapour. May be irritating to skin, respiratory tract and eyes. May be harmful if absorbed through the skin. May cause central nervous system effects.

SKIN CONTACT	This product may cause mild to moderate skin irritation. Prolonged or repeated exposure may result in contact dermatitis which is characterized by redness, itching, drying and/or cracking of the skin. This product contains hazardous component(s) which may be absorbed through the skin.
EYE CONTACT	This product may cause mild to moderate eye irritation. Direct contact or excessive exposure to vapors may cause redness, tearing and stinging.
INHALATION	Inhalation of excessive quantities of vapours may cause irritation of the nose, throat and respiratory tract, as well as headache, nausea, dizziness, loss of coordination & fatigue.
INGESTION	Ingestion of this product may cause gastrointestinal irritation, headache, nausea, vomiting, diarrhea, dizziness, loss of coordination and fatigue.
CHRONIC EFFECTS	Chronic overexposure may result in liver abnormalities.
Medical Condition Aggravated by Exposure	Preexisting skin disorders may be aggravated by exposure to this product. Impaired respiratory and liver functions from preexisting medical conditions may be aggravated by exposure to this product.

Potential Health Effects (NFPA Classification)

Fire hazard : 1	Health Hazard : 1	Reactivity : 0	Personal Protection : See Section 8
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0 = Minimal 1 = Slight hazard 2= Moderate Hazard 3 = Serious Hazard 4 = Severe Hazard

Potential Health Effects (HMIS Rating)

Health : 1	Flammability : 1	Reactivity : 0
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0 = Minimal 1 = Slight hazard 2= Moderate Hazard 3 = Serious Hazard 4 = Severe Hazard

SECTION 4 – FIRST AID MEASURES

EYE CONTACT	In case of direct contact, flush eyes with generous amounts of water for at least 15 minutes. Call a physician to attend to the injury if irritation or redness persists.
SKIN CONTACT	Remove contaminated clothing. Wash affected area thoroughly with soap and water. Call a physician to attend to the injury if irritation or redness persists.
INHALATION	Remove individual to a well ventilated area for fresh air. If breathing difficulties develop, oxygen should be administered by qualified personnel. Call a physician to attend to the injury.
INGESTION	Ingestion is an unlikely route of exposure under normal industrial condition. If material is ingested, immediately call a physician.
ADDITIONAL INFO	None

SECTION 5 – FIRE FIGHTING MEASURES

Flash Point Less than 23°C / 73°F	Flash Point Category (OSHA) IB - Flammable	Lower Flammability Limit in Air (% by Vol) 1.3 to 1.5
Extinguishing Media	Extinguish with a multipurpose fire fighting CO ₂ , water spray, dry powder or foam.	
Special Fire fighting Procedure	The use of self-contained breathing apparatus is recommended for fire fighters. Water spray may be used to cool the packages exposed to heat near the flame. Avoid spreading burning liquid with water used for cooling purposes.	
Unusual Fire and Explosion Hazards	This product is (OSHA) flammable and may be ignited by heat, sparks, flame or static electricity if marker is broken. Vapors are heavier than air, may travel along the ground and may be moved by ventilation; flashback along vapor trail may occur.	

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Small Spills	Cover remaining spilled product with dry powder, dry sand, or Vermiculite. Eliminate all source of ignition & ventilate area of spill. The product may be already dry before powders are applied.
Large Spills	Unlikely to occur in valve format

SECTION 7 – HANDLING AND STORAGE

Handling procedures	None special needed. Don't break or burn the marker
Storage precautions	Normal precaution should be followed. Store in a dry & cool place, out of direct sunlight.

Do not store at temperature >50°C/120°F or near spark or open flame.

SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

PERSONAL PROTECTION

Respiratory protection	None if product is properly used.
Protective gloves	If marker is frequently used, wear rubber glove to prevent skin contact.
Eye protection	None if product is properly used.
Clothing	Standard industrial.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance Marker with a valve	Odour Alcohol/Acetate odour	Physical state Liquid @ 25°C/77°F	Boiling point 173°F/78°C to 301°F/149°C
Melting point N/Av.	Specific gravity (H ₂ O=1) > 1	Evaporation rate (vs. Butyl Acetate) <0.01 @ 25°C/77°F	Solubility in water Partially soluble
Vapor Density vs. Air Heavier	Partitioning coefficient N/Av.	Typical density (lbs/gal) 7.69 to 9.64	Percent volatiles 59 to 81 %

SECTION 10 – STABILITY AND REACTIVITY DATA

Stability Stable	Hazardous polymerization Will not occur.
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Incompatibility
Normally unreactive; however avoid contact with strong oxidizing agent (ex. Peroxides, chlorine).

Hazardous decomposition products
Burning can produce noxious and toxic fumes, and the following combustion products : Oxides of carbon, oxides of nitrogen & sulfur.

SECTION 11 – TOXICOLOGICAL INFORMATION

Carcinogenicity Ethanol has been linked to cancer in humans but is not listed in NTP or IARC carcinogen list of product. However, the ethanol present in this product is unsuitable to drink.	Reproductive Effects Ethanol has been linked to birth defects in humans when ingested. However, the ethanol present in this product is unsuitable to drink.
Irritancy of Material Cause eye & skin irritation.	Sensitizing Capability None known
Mutagenicity / Teratogenicity Not listed	Synergistic Materials None known

Acute Toxicity Data

Ingredient	CAS#	LD ₅₀ Oral (mg/kg)	LD ₅₀ Dermal (mg/kg)	LC ₅₀ Inhalation (4 hrs.)
Ethanol	64-17-5	7060 (rat)	N/Av.	20000 ppm (rat/10 hrs)
n-Propyl Acetate	109-60-4	9370 (rat)	> 20 ml/kg (rabbit)	8000 ppm (rat)
Propylene Glycol Methyl Ether	107-98-2	6600 (rat)	13 gm/kg (rabbit)	15000 ppm (rat)
n-Propyl Alcohol	71-23-8	1870 (rat)	5040 (rabbit)	4000 ppm (rat)
Nitrocellulose Resin	9004-70-0	N/Av.	N/Av.	N/Av.
Isopropyl Acetate	108-21-4	6750 (rat)	> 20 ml/kg (rabbit)	50600 ppm (rat)
Isopropyl Alcohol	67-63-0	5840 (rat)	12800 (rabbit)	16000 ppm (rat/8 hrs)
Dipropylene Glycol Methyl Ether	34590-94-8	5700 (rat)	13000-14000 (rabbit)	N/Av.

SECTION 12 – ECOLOGICAL INFORMATION

Toxic to aquatic organism. Avoid contact with public sewer system.

SECTION 13 – DISPOSAL CONSIDERATION

Dispose of in accordance with appropriate Federal, State and local regulation.

SECTION 14 – TRANSPORT INFORMATION

Dot Hazard Classification
Not Regulated.

IATA Classification
Not Regulated.

ICAO Classification Not Regulated.	
IMO Classification Not Regulated.	
TDG Hazard Classification Not Regulated.	
UN / NA Hazard No. Not Regulated.	
Other N/Av.	
SECTION 15 – REGULATORY INFORMATION	
Hazard Details of SECTION 2	<ol style="list-style-type: none"> 1 Appears on the California Right-To-Know Substance List. 2 Appears on the Massachusetts Right-To-Know Substance List. 3 Appears on the New Jersey Right-To-Know Hazardous Substance List. 4 Appears on the Pennsylvania Hazardous Substance List. 5 Appears on the Minnesota Right-To-Know Substance List. 6 Appears on the Canadian WHMIS Ingredient Disclosure List. 7 Reportable under the export notification requirements of TSCA, Section 12(B).
SARA Status	No reporting requirement.
SARA Hazard Cat.	Acute Health Hazard, Flammable
TSCA Status	All ingredients of this product are listed on the U.S. EPA TSCA (Toxic Substances Control Act) Chemical Substance Inventory. This product also contains ethanol (64-17-5) which is reportable under the export notification requirements of TSCA, Section 12(B).
DSL Status	All ingredients of this product are listed on the Canadian EPA (CEPA) Domestic Substances List (DSL).
EINECS Status	All ingredients of this product are listed on the European Inventory of Existing Chemical Substances (EINECS).
AICS Status	All ingredients of this product are listed on the Australian Inventory of Chemical Substances (AICS).
OSHA Status	Not an hazardous material as defined by U.S. OSHA HCS (29 CFR 1910.1200). Falls under the definition of an “article”.
WHMIS Status	Not considered to be hazardous material as defined by Canadian WHMIS Controlled Product Regulation (CPR). Falls under the definition of a “manufactured article”.
Risk Phrases	None.
Safety Phrases	S2: Keep out of reach of children.
OSHA HCS Compliance	MSDS of the product is classified in accordance with all the required information for his hazard criteria under the Health Communication Standards of the U.S. OSHA.
WHMIS CPR Compliance	MSDS of the product is classified in accordance with all the required information for his hazard criteria under the Controlled Products Regulations of the Canadian WHMIS.
ANSI Z400.1-1993 Compliance	MSDS of the product is made following the Z400.1-1993 standards of the ANSI.
SECTION 16 – OTHER INFORMATION	
Full Text of R-phrases appearing in Section 2	R10 : Flammable R11 : Highly flammable R20/21 : Harmful by inhalation and in contact with skin

	R36 : Irritating to eyes R38 : Irritating to skin R66 : Repeated exposure may cause skin dryness or cracking R67 : Vapours may cause drowsiness and dizziness
N/Av.=NOT AVAILBLE	N/L=NOT LISTED
MSDS Originally made by Karl Pinard	Revised by Samia Ghezlaoui

The information contained in this document is derived from data supplied to CARMEL GROUP by the manufacturers or distributors of the raw materials combined to form this product. However, CARMEL GROUP makes no representations as to its completeness or accuracy. To the best of our knowledge all hazards have been noted for the intended use of the product and, since CARMEL GROUP cannot control conditions of use, the end user is obliged to determine the conditions permitting safe use of the product. In no event will CARMEL GROUP be responsible for damage of any nature whatsoever resulting from the use of or reliance upon the information contained herein.

CARMEL GROUP INC.

INK VALVE-ACTIVATED MARKER PRODUCTS

Product code	Product Description
PM20104	Blue Ink Valve-Activated Marker
PM20108	Black Ink Valve-Activated Marker
PM20109	Red Ink Valve-Activated Marker
PM20110	Green Ink Valve-Activated Marker
PM20112	Orange Ink Valve-Activated Marker