MATERIAL SAFETY DATA SHEET

SECTION I - PRODUCT IDENTIFICATION

Product Name : **METAFLOW**

Product Use : Pre/Co-Injection Embalming Chemical

Chemical Family : Mixture.

Supplier's name and address:

The Dodge Chemical Company (Canada) Ltd.
1265 Fewster Drive
Mississauga, Ontario, Canada
L4W 1A2
(905) 625 0311

Manufacturer's name and address:

Refer to Supplier

24 Hr. Emergency Tel # : (613) 996-6666 (CANUTEC)

WHMIS CLASS : This product is not a WHMIS controlled product in Canada.

SECTION II - HAZARDOUS INGREDIENTS

Ingredients	CAS #	Wt.%	LC_{50}(4hr) (Rat, ihl.)	LD_{50} mg/kg (Oral, rat)	LD_{50} mg/kg (Rabbit, dermal)
Propylene glycol	57-55-6	**10.0 - 30.0**	N/Av	21,800	20,800
Dimethyl sulfoxide	67-68-5	**1.0 - 5.0**	> 1600 mg/m3	14,500	N/Av

SECTION III - PHYSICAL DATA

Physical state : Clear liquid. Slightly viscous.

Odour : faint spice odour

Appearance : pink

Odour threshold : N/Av

pH : 9.5 - 10.5

Boiling point : 98 - 100°C (208 - 212°F)

Specific gravity : 1.025 - 1.035

Melting/Freezing point : N/Av

Coefficient of water/oil distribution : N/Av

Vapour pressure (mmHg @ 20° C / 68° F) : N/Av

Solubility in water : Complete

Vapour density (Air = 1) : > 1

Evaporation rate (n-Butyl acetate = 1) : < 1

Volatiles (% by weight) : 96

SECTION IV - FIRE AND EXPLOSION DATA

Fire hazards/conditions of flammability

: Not flammable under normal conditions of use. However, may ignite if exposed to extreme heat and flame.

Flash point : > 93°C (> 200°F)

Flash point Method : TCC

Auto-ignition temperature : N/Av

Lower flammable limit (% by vol.) : N/Av

Upper flammable limit (% by vol.) : N/Av

Means Of Extinction : Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.

Explosion data: Sensitivity to mechanical impact / static discharge

: Not expected to be sensitive to mechanical impact or static discharge.

Special fire-fighting procedures/equipment

: Firefighters should wear proper protective equipment and self contained breathing apparatus with full face piece operated in positive pressure mode. Move containers from fire area if safe to do so. Water spray may be useful in cooling equipment exposed to heat and flame. Avoid spreading burning liquid with water spray used for cooling purposes.

Unusual Fire and Explosion Hazards

: Vapours are heavier than air and collect in confined and low-lying areas. Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure.

Hazardous combustion products

: Carbon oxides; formaldehyde; organic sulfides; Sulphur oxides.

SECTION V - REACTIVITY DATA

Stability and reactivity : Stable under the recommended storage and handling conditions prescribed. Dimethyl sulfoxide decomposes slowly above 189°C, forming methanethiol, formaldehyde, water, bis(methylthilo)methane, dimethyl disulfide, dimethyl sulfone, dimethyl sulfide, sulfur dioxide and other chemicals. Hazardous polymerisation does not occur.

Conditions of reactivity : Avoid excessive heat, sparks and open flame.

Incompatible materials : Strong acids, alkalies, and oxidizers.

Hazardous decomposition products

: None known, refer to hazardous combustion products in Section 4.

SECTION VI - TOXICOLOGICAL PROPERTIES

***** Routes of exposure and acute/chronic effects *****

Exposure Limits

Ingredients	ACGIH TLV		OSHA PEL	
	TWA	STEL	PEL	STEL
Propylene glycol	*10 mg/m3	N/Av	N/Av	N/Av
Dimethyl sulfoxide	250 ppm (AIHA WEEL)	N/Av	N/Av	N/Av

*Note: The ACGIH TLV listed above for Propylene glycol is an AIHA WEEL.

Routes of exposure : Skin contact; Eye contact; Ingestion; Inhalation.

Irritancy : Mild eye irritant. Mild skin irritant.

Potential Acute Health Effects

Inhalation : May cause irritation to upper respiratory system.

Skin : Harmful effects are not expected under normal usage. With lengthy exposures, may be absorbed and cause garlic-like breath and central nervous system effects.

Eyes : Mild stinging, redness, watering, and mucous discharge.

Ingestion : May cause irritation of mouth, throat, and stomach. Ingestion of large amounts may cause nausea, vomiting, diarrhea, as well as depression of the central nervous system.

Effects of Chronic Exposure : Prolonged skin contact may cause dermatitis (rash), characterized by red, dry, itching skin.

Carcinogenicity : No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.

Reproductive effects : Not expected to have other reproductive effects.

Teratogenicity : Not expected to be a teratogen.

Mutagenicity : Not expected to be mutagenic in humans.

Sensitization to material : Not expected to be a skin or respiratory sensitizer.

Synergistic materials : Dimethyl sulfoxide may significantly enhance the absorption of numerous chemicals and drugs.

Medical Conditions Aggravated By Overexposure

: None known or reported by the manufacturer.

SECTION VII - FIRST AID

Inhalation : Remove exposed person to fresh air if adverse effects, such as breathing difficulty arise. Obtain medical attention if symptoms develop and persist.

Skin contact : Immediately flush with plenty of water, while removing contaminated clothing. If irritation or symptoms develop, seek medical attention. Wash contaminated clothing before re-use.

Eye contact : Immediately flush eye(s) with plenty of water. If irritation persists, seek prompt medical attention.

Ingestion : Do NOT induce vomiting. If conscious, give the victim plenty of water to drink. Never give anything by mouth to an unconscious person. Consult a physician.

SECTION VIII - PREVENTIVE MEASURES

Spill response/cleanup : Individuals involved in the cleanup must wear appropriate personal protective equipment. Remove all sources of ignition. Ventilate area of release. Stop the spill at source if it is safe to do so. Contain and absorb spilled material with inert, non-combustible absorbent material, such as sand. Place absorbent material in a suitable, closed and labelled container for later disposal (see below). Ensure spilled product does not enter drains, sewers, waterways, or confined spaces. Notify the appropriate authorities as required.

Methods of Disposal : Handle according to recommendations listed below. Improper disposal can cause damage to the environment. Dispose of in accordance with federal, provincial and local hazardous waste laws.

***** PROTECTIVE EQUIPMENT *****

Ventilation and engineering measures
: None required under normal conditions. Provide sufficient ventilation to keep vapour concentration below the given TLV and/or PEL.

Respiratory protection : Use in a well ventilated area. If the TLV is exceeded, a NIOSH/MSHA-approved respirator is advised. Advice should be sought from respiratory protection specialists.

Skin protection : Gloves impervious to the material are recommended. Advice should be sought from glove suppliers.

Eye / face protection : None required when used as intended. If splashing might occur, wear eye protection such as safety glasses with side shields.

Other protective equipment : An eyewash station and safety shower should be made available in the immediate working area. Depending on conditions of use, an impervious apron should be worn.

***** STORAGE & HANDLING *****

Safe Handling procedures : Wear chemically resistant protective equipment during handling. Do not inhale vapour or mist. Avoid contact with skin, eyes and clothing. Keep away from heat and sources of ignition. Keep away from acids and other incompatibles. Keep containers closed when not in use. Wash thoroughly after handling.

Storage requirements : Store in a cool, dry, well-ventilated area. Store away from incompatible materials. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks.

Special Shipping Information

Regulatory Information	UN Number	Shipping Name	Class	Packing Group	Label
TDG	None	Not regulated.	Not regulated	none	
TDG Additional information	None.				

SECTION IX - PREPARATION INFORMATION

Legend :

ACGIH: American Conference of Governmental Industrial Hygienists
AIHA: American Industrial Hygiene Association
CAS: Chemical Abstract Services
IARC: International Agency for Research on Cancer
Inh: Inhalation
MSHA: Mine Safety and Health Administration
N/Ap: not applicable
N/Av: not available
NTP: National Toxicology Program
NIOSH: National Institute of Occupational Safety and Health
OSHA: Occupational Safety and Health Administration
PEL: Permissible exposure limit
STEL: Short Term Exposure Limit
TCC: Tagliabue Closed Cup
TDG: Canadian Transportation of Dangerous Goods Act & Regulations
TLV: Threshold Limit Values
TWA: Time Weighted Average
WEEL: Workplace Environmental Exposure Level
WHMIS: Workplace Hazardous Materials Identification System

References :

1. ACGIH, Threshold Limit Values and Biological Exposure Indices for 2006.
2. International Agency for Research on Cancer Monographs, searched 2006.
3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases, 2006 (Chempendium and RTECs).
4. Material Safety Data Sheet from manufacturer.

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Prepared by:

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