

## Section 1 - Product and Company Information

Product Name (ALPHA)-CAROTENE SOLUTION  
Product Number 05784  
Brand FLUKA  
Company Sigma-Aldrich Canada, Ltd  
Address 2149 Winston Park Drive  
Oakville ON L6H 6J8 CA  
Technical Phone: 9058299500  
Fax: 9058299292  
Emergency Phone: 800-424-9300

## Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313	
ALPHA-CAROTIN SOLUTION, IMG/ML	None	Yes	
METHYLENE CHLORIDE			
Ingredient Name	CAS #	Percent	SARA 313
METHANE, DICHLORO-	75-09-2	>= 99.9	Yes
A-CAROTENE CRYSTALLINE TYPE V	7488-99-5	<= 0.1	No

## Section 3 - Hazards Identification

## EMERGENCY OVERVIEW

Harmful.  
Harmful if swallowed. Irritating to eyes, respiratory system and skin. Limited evidence of a carcinogenic effect.  
Readily absorbed through skin. Calif. Prop. 65 carcinogen.  
Confirmed Carcinogen (US). Target organ(s): Central nervous system. Liver.

## HMIS RATING

HEALTH: 2\*  
FLAMMABILITY: 1  
REACTIVITY: 0

## NFPA RATING

HEALTH: 2  
FLAMMABILITY: 1  
REACTIVITY: 0

\*additional chronic hazards present.

For additional information on toxicity, please refer to Section 11.

## Section 4 - First Aid Measures

## ORAL EXPOSURE

If swallowed, wash out mouth with water provided person is conscious. Call a physician immediately.

## INHALATION EXPOSURE

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

## DERMAL EXPOSURE

In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

## EYE EXPOSURE

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

## Section 5 - Fire Fighting Measures

## FLASH POINT

N/A

## EXPLOSION LIMITS

Lower: 12 % Upper: 19 %

## AUTOIGNITION TEMP

662 °C

## FLAMMABILITY

N/A

## EXTINGUISHING MEDIA

Suitable: For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

## FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.  
Specific Hazard(s): Emits toxic fumes under fire conditions.

## Section 6 - Accidental Release Measures

## PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area.

## PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves. Wear disposable coveralls and discard them after use.

## METHODS FOR CLEANING UP

Absorb on sand or vermiculite and place in closed containers for disposal. Ventilate area and wash spill site after material pickup is complete.

## Section 7 - Handling and Storage

## HANDLING

User Exposure: Do not breathe vapor. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure. For protection and handling requirements consult CFR title 29 part

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1910.1052.

## STORAGE

Suitable: Store under inert gas. Keep tightly closed.  
Store at -20°C

## SPECIAL REQUIREMENTS

Store under inert gas.

## Section 8 - Exposure Controls / PPE

## ENGINEERING CONTROLS

Use only in a chemical fume hood. Safety shower and eye bath.

## PERSONAL PROTECTIVE EQUIPMENT

Respiratory: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Use supplied-air or SCBA respirators. Europe permits the use of type AXBEK full-face cartridge respirators (EN 14387).  
Hand: Compatible chemical-resistant gloves.  
Eye: Chemical safety goggles.

## GENERAL HYGIENE MEASURES

Wash contaminated clothing before reuse. Wash thoroughly after handling.

## Section 9 - Physical/Chemical Properties

Appearance	Physical State: Clear liquid Color: Orange	
Property	Value	At Temperature or Pressure
pH	N/A	
BP/BP Range	N/A	
MP/BP Range	N/A	
Freezing Point	N/A	
Vapor Pressure	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
SG/Density	1.325 g/cm3	20 °C
Bulk Density	N/A	
Odor Threshold	N/A	
Volatile%	N/A	
VOC Content	N/A	
Water Content	N/A	
Solvent Content	N/A	
Evaporation Rate	N/A	
Viscosity	N/A	
Surface Tension	N/A	
Partition Coefficient	N/A	
Decomposition Temp.	N/A	
Flash Point	N/A	
Explosion Limits	Lower: 12 % Upper: 19 %	
Flammability	N/A	
Autoignition Temp	662 °C	
Refractive Index	N/A	
Optical Rotation	N/A	
Miscellaneous Data	N/A	
Solubility	N/A	

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N/A - not available

## Section 10 - Stability and Reactivity

## STABILITY

Stable: Stable.  
Conditions of Instability: Moisture sensitive. Air and light sensitive.  
Conditions to Avoid: Heat.  
Materials to Avoid: Aluminum, Alkali metals.

## HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Phosgene gas Carbon monoxide, Carbon dioxide, Hydrogen chloride gas.

## HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

## Section 11 - Toxicological Information

## ROUTE OF EXPOSURE

Skin Contact: May cause skin irritation.  
Skin Absorption: Readily absorbed through skin. May be harmful if absorbed through the skin.  
Eye Contact: May cause eye irritation.  
Inhalation: Material may be irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled.  
Ingestion: May be harmful if swallowed.

## TARGET ORGAN(S) OR SYSTEM(S)

Liver. Pancreas. Blood. Target organ: central nervous system because of possible dizziness, headache, loss of consciousness and death at high concentrations. Target organ: heart because methylene chloride is converted to carbon monoxide in the body.

## SIGNS AND SYMPTOMS OF EXPOSURE

Convulsions. Somnolence. Paresthesia. CNS depression. Prolonged or repeated contact with skin can cause defatting and dermatitis. Contact with eyes can cause redness, tearing, and blurred vision. Ingestion may cause gastrointestinal irritation. Drowsiness. Weakness. Increased liver enzymes. Ingestion can cause gastrointestinal disorders, nausea, and vomiting. Irregular breathing. Pulmonary edema. Effects may be delayed. Conjunctivitis. A simple asphyxiant, exposure can cause anesthetic action, difficulty in breathing, headache, and dizziness. Dichloromethane is metabolized in the body producing carbon monoxide which increases and sustains carboxyhemoglobin levels in the blood, reducing the oxygen-carrying capacity of the blood.

## CONDITIONS AGGRAVATED BY EXPOSURE

Existing data suggests that methylene chloride may be a weak mutagen in mammalian systems.

## CHRONIC EXPOSURE - CARCINOGEN

Result: This is or contains a component that has been reported to be carcinogenic based on its IARC, OSHA, ACGIH, NTP, or EPA classification.

## CHRONIC EXPOSURE - TERATOGEN

Result: Possible risk of congenital malformation in the fetus.

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## Section 12 - Ecological Information

No data available.

## Section 13 - Disposal Considerations

## APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

Contact a licensed professional waste disposal service to dispose of this material. Observe all federal, state, and local environmental regulations.

## Section 14 - Transport Information

## DOT

Proper Shipping Name: Dichloromethane solution  
UN#: 1593  
Class: 6.1  
Packing Group: Packing Group III  
Hazard Label: Toxic Substance  
PIH: Not PIH

## IATA

Proper Shipping Name: Dichloromethane solution  
IATA UN Number: 1593  
Hazard Class: 6.1  
Packing Group: III

## Section 15 - Regulatory Information

## EU ADDITIONAL CLASSIFICATION

Symbol of Danger: Xn  
Indication of Danger: Harmful.  
R: 40  
Risk Statements: Limited evidence of a carcinogenic effect.  
S: 36/37  
Safety Statements: Wear suitable protective clothing and gloves.

## US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Harmful.  
Risk Statements: Harmful if swallowed. Irritating to eyes, respiratory system and skin. Limited evidence of a carcinogenic effect.  
Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing and gloves.  
US Statements: Readily absorbed through skin. Calif. Prop. 65 carcinogen. Confirmed Carcinogen (US). Target organ(s): Central nervous system. Liver.

## UNITED STATES REGULATORY INFORMATION

SARA LISTED: Yes  
NOTES: This product is or contains a component that is subject to SARA313 reporting requirements.

## UNITED STATES - STATE REGULATORY INFORMATION

OSHA Remarks: OSHA regulated - see CFR title 29 part 1910.1052.

## CALIFORNIA PROP - 65

California Prop - 65: This product is or contains chemical(s) known to the state of California to cause cancer.

## CANADA REGULATORY INFORMATION

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WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.  
DSL: Yes  
NDSL: No

## Section 16 - Other Information

## DISCLAIMER

For R&D use only. Not for drug, household or other uses.

## WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2009 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

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