

**MATERIAL SAFETY DATA SHEET**

Alltech Associates, Inc.  
2051 Waukegan Road \* Deerfield, IL 60015  
Tel: 847-948-8600 \* Fax: 847-948-1078



A GRACE Company

In case of emergency, call CHEMTREC at 1-800-424-9300

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APPLIES TO: \*4176, \*4176A  
REVISION DATE: 1/24/2003

Varian Inc. p/n 99775400

**SECTION I PRODUCT IDENTIFICATION**

PRODUCT: Grob Test Mixture (in Methylene Chloride)

COMPOSITION:

COMPONENT	CONCENTRATION (%)
Dichloromethane	98
n-decane	0.028
n-undecane	0.029
Methyl undecanoate	0.042
2,3-butanediol	0.053
Dicyclohexylamine	0.031
2-ethylhexanoic Acid	0.038
1-nonanal	0.04
1-octanol	0.035
2,6-dimethylaniline	0.032
2,6-dimethylphenol	0.032
Methyl Laurate	0.041
Methyl Caproate	0.042

NOTE:

MSDS INFORMATION IS SUPPLIED FOR THE PRIMARY INGREDIENT ONLY

**SECTION II HAZARDOUS INGREDIENTS**

SYNONYMS: Methylene Chloride

CHEMICAL: Chlorinated Hydrocarbon

FAMILY:

MOLECULAR: 84.93

WEIGHT:

FORMULA: CH<sub>2</sub>CL<sub>2</sub>**SECTION III PHYSICAL DATA**

BOILING POINT 760mm HG: 39.8C

PERCENT VOLATILES: 100

SPECIFIC GRAVITY (H<sub>2</sub>O=1): 1.326

FREEZING POINT: NA

VAPOR DENSITY (AIR=1) 2.93

VAPOR PRESSURE at 20 C

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**SECTION IV HEALTH HAZARD DATA**

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POSSIBLE CANCER HAZARD: May cause cancer based on animal data.

POTENTIAL HEALTH EFFECTS (ACUTE AND CHRONIC):

TOXIC by ingestion and inhalation.

IRRITATING on contact with skin, eyes or mucous membranes.

MAY cause eye injury.

INHALATION of high vapor concentrations causes dizziness, nausea, headache, narcosis, irregular heartbeats, coma and death.

INGESTION may cause irritation of the gastrointestinal tract with vomiting. If vomiting occurs, methylene chloride can be aspirated into the lungs, which can cause chemical pneumonia and systemic effects.

MEDICAL CONDITION AGGRAVATED BY EXPOSURE: Heart, kidney and liver conditions.

ROUTES OF ENTRY: Inhalation, ingestion.

FIRST AID PROCEDURES: GET MEDICAL ASSISTANCE FOR ALL CASES OF OVEREXPOSURE.

SKIN: Wash thoroughly with soap and water.

EYES: Immediately flush thoroughly with water for at least 15 minutes.

INHALATION: Remove to fresh air; give artificial respiration if breathing has stopped.

INGESTION: DO NOT induce vomiting; get medical attention.

**SECTION V FIRE AND EXPLOSION HAZARD DATA**

FLASH POINT: None

AUTOIGNITION TEMPERATURE: NA

FLAMMABLE LIMITS LOWER: 13%

FLAMMABLE LIMITS UPPER: 23%

EXTINGUISHING MEDIA: Water spray, carbon dioxide, dry chemical.

SPECIAL FIRE FIGHTING PROCEDURES: Wear self-contained breathing apparatus.

FIRE AND EXPLOSION HAZARDS: Forms flammable vapor-air mixtures above ambient temperature.

**SECTION VI REACTIVITY DATA**

STABILITY: Stable

CONDITIONS TO AVOID: Contact with open flame, welding arcs, hot surfaces.

INCOMPATIBILITY (MATERIALS TO AVOID): Bases, oxidizers, alkali metals, aluminum and magnesium powder, sodium, potassium and lithium.

HAZARDOUS DECOMPOSITION PRODUCTS: HCl, phosgene, chlorine

HAZARDOUS POLYMERIZATION: Will not occur.

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**SECTION VII SPILL OR LEAK PROCEDURES**

**SPILL RESPONSE:** Evacuate the area of all unnecessary personnel. Wear suitable protective equipment. Eliminate any ignition sources until the area is determined to be free from explosion or fire hazards.

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Contain the release and eliminate its source if this can be done without risk. Take up and containerize for proper disposal as described under disposal.

**WASTE DISPOSAL METHOD:** Incineration to a level below TLA levels. Contact your local permitted waste disposal company (TSD) for permissible treatment site. **ALWAYS CONTACT A PERMITTED WASTE DISPOSER (TSD) TO ASSURE COMPLIANCE WITH ALL CURRENT LOCAL, STATE AND FEDERAL REGULATIONS.**

**SECTION VIII SPECIAL PROTECTION INFORMATION**

**RESPIRATORY PROTECTION:** A NIOSH/MSHA approved air supplied respirator is advised in the absence of proper environmental control. OSHA regulations also permit other NIOSH/MSHA respirator (negative pressure type) under specified conditions (see your safety equipment supplier). Engineering and/or administrative controls should be implemented to reduce exposure.

**VENTILATION:** Approved fume hood or equivalent ventilation.

**PROTECTIVE GLOVES:** Vitron, PVA or equivalent.

**EYE PROTECTION:** Safety glasses with side shields.

**OTHER PROTECTIVE EQUIPMENT:** Eyewash fountain.

**SECTION IX SPECIAL PRECAUTIONS****HANDLING AND STORAGE:**

Keep container tightly closed.

Store in a cool, well-ventilated area away from open flames.

Do not breath vapor or mist.

Do not get in eyes, on skin or on clothing.

Empty containers may be hazardous due to retained residue -- use caution.

**NOTICE:** The information contained in the MSDS description is applicable exclusively to the chemical substances identified herein and for its intended use as an analytical reference standard or reagent and to the unit quantity intended for that purpose. The information does not relate to, and may not be appropriate for, any application or larger quantity of the substance described. Our products are intended for the use by individuals possessing sufficient technical skill and qualification to use the material with suitable discretion and understanding of risk of handling any potential hazardous chemical. The information has been obtained from sources believed to be reliable and accurate but has not been independently verified by Alltech Associates, Inc. Accordingly, **NO REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, WITH RESPECT TO MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE** is made with respect to the information contained herein.

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**ATTENTION: THIS PRODUCT IN TERMS OF CHEMICAL IDENTITY AND THE UNIT AMOUNT PROVIDED IS INTENDED FOR USE IN CHEMICAL ANALYSIS AND NOT FOR HUMAN CONSUMPTION, NOR ANY OTHER PURPOSE.**