



VINATI ORGANICS LIMITED.
Plot No. A-20, MIDC Industrial Area, Lote-Parshuram # 15 722
Tal. Khed, Dist. Ratnagiri, Maharashtra, INDIA.

1.	Chemical Product and Company Identification			
Product Trade Name	HP-MTBE (HIGH PURITY - METHYL TERTIARY BUTYL ETHER)			
CAS Number	1634-04-4			
Synonyms	Methyl t-Butyl Ether, Tert-Butyl Methyl Ether, MTBE			
Molecular Weight	88.15			
Chemical Formula	C ₅ H ₁₂ O			
IUPAC Name	2-Methoxy-2-methylpropane, Methyl 1,1-dimethyl ethyl ether			
Applications	Laboratory Reagent and used in Bulk Drug Industries.			
Preparation/Revision Date	15 th December 2015 (Previously Revised on 7 th March 2012)			
Transportation Emergency Phone No.	Lote Office - 91-2356-273032 / 33 / 34 Fax - 91 - 2356 - 272 448 Corporate Office - 91-22-61240444 / 61240 4428 Fax - 91-22 - 4201 4438			
2.	Hazards Identification			
Appearance	Clear colourless liquid.			
Order	Characteristic ethereal odor.			
Principal Hazards	<p>Danger! Extremely flammable liquid and vapor. Vapor may cause flash fire. Harmful if swallowed, inhaled or absorbed through skin. May affect central nervous system, blood, and kidneys. A central nervous system depressant. Causes irritation to skin, eyes and respiratory tract.</p> <p>Complementary Information: Unpleasant turpentine-like taste in water.</p>			
3.	Composition / Information on Ingredients :			
	Ingredients	CAS No.	Percentage (%)	Hazardous
	HP MTBE	1634-04-4	99.90	YES
	WATER	7732-18-5	0.03	NO
	OTHER		0.10	YES
4.	First Aid Measures			
Eyes	Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.			
Skin	Remove any contaminated clothing. Wash skin with soap and water for at least 15 minutes. Get medical attention if irritation develops or persists.			
Inhalation	Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.			
Oral	Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.			
Additional Information	Note to physician: Treat symptomatically.			

5.	Fire Fighting Measures
Extinguishing Media	Alcohol Resistant Foam (AR-AFFF)
Firefighting Procedures	In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode.
6.	Accidental Release Measures
Spill Procedures	Ventilate area of leak or spill. Remove all sources of ignition. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible. Use non-sparking tools and equipment. Collect liquid in an appropriate container or absorb with an inert material (e. g., vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer! If a leak or spill has not ignited, use water spray to disperse the vapors, to protect personnel attempting to stop leak, and to flush spills away from exposures. US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities
7.	Handling and Storage
	Protect against physical damage. Store in a cool, dry well-ventilated location, away from any area where the fire hazard may be acute. Outside or detached storage is preferred. Separate from incompatibles. Containers should be bonded and grounded for transfers to avoid static sparks. Storage and use areas should be No Smoking areas. Use non-sparking type tools and equipment, including explosion proof ventilation. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product
8.	Exposure Controls / Personal Protection
Exposure Limits	ACGIH Threshold Limit Value (TLV): 50 ppm (TWA), A3 Confirmed animal carcinogen with unknown relevance to humans.
Ventilation System (Engineering Controls)	A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, <i>Industrial Ventilation, A Manual of Recommended Practices</i> , most recent edition, for details. Use explosion-proof equipment
Skin Protection	Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact
Eye Protection	Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area
Clothing Recommendation	Wear impervious protective clothing

Respiratory Protection	If the exposure limit is exceeded and engineering controls are not feasible, a half-face organic vapor respirator may be worn for up to ten times the exposure limit. For emergencies or instances where the exposure levels are not known, use a full-face piece positive-pressure, air-supplied respirator. WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres
9.	Physical and Chemical Properties
Flash Point	- 29° C
Lower Explosive Limit	1.6 %
Upper Explosive Limit	8.4 %
Auto ignition Point	224 °C
Explosion Data	Above the flash point, explosive vapor-air mixtures may be formed. Vapors can flow along surfaces to distant ignition source and flash back. Sealed containers may rupture when heated. Sensitive to static discharge
Vapor Pressure	245 @ 25 ⁰ C (77F)
Specific Gravity	0.74
Water Solubility	4.8 g/100g of water.
Percent Volatile	99.9 %
Vapor Density	3.0 Kg/M ³
Odor	Characteristic ethereal odor.
Appearance	Clear, colorless liquid.
Hazchem Code	3[Y]E
Boiling Point	55 °C (131 °F)
Pour Point Temperature	Not determined
Melting / Freezing Point	-110 °C (-166F)
10.	Stability and Reactivity
Stability	Stable under ordinary conditions of use and storage. Unstable in acid solutions. Much likely to form peroxides than other ethers.
Thermal Decomposition	Carbon dioxide and carbon monoxide may form when heated to decomposition.
Incompatibility	Oxidizers, acids.
Polymerization	Will not occur.
Conditions to Avoid	Heat, flames, ignition sources and incompatibles.
11.	Toxicological Information
	- ACUTE EXPOSURE -
Eye Irritation	CAUSES IRRITATION TO EYES.
Skin Irritation	CAUSES IRRITATION TO SKIN
Respiratory Irritation	CAUSES IRRITATION TO RESPIRATORY TRACT.
Dermal Toxicity	HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. MAY AFFECT CENTRAL NERVOUS SYSTEM, BLOOD, AND KIDNEYS.
Inhalation Toxicity	Inhalation rat LC50: 23576 ppm/4H.
Oral Toxicity	Oral rat LD50: 4 gm/kg;

	- CHRONIC EXPOSURE -
Carcinogenicity	IARC Category No. 3
Mutagenicity	Not determined
Reproductive Toxicity	Not determined
Teratogenicity	Not determined
	- ADDITIONAL INFORMATION -
Other	No other health hazards known.
12.	Ecological Information
	- ENVIRONMENTAL TOXICITY -
Environmental Fate:	When released into the soil, this material is not expected to biodegrade. When released into the air, this material is expected to adversely affect the ozone layer. When released into the soil, this material is expected to quickly evaporate. When released to water, this material is expected to quickly evaporate.
Environmental Toxicity	No information found.
	- ENVIRONMENTAL FATE -
Biodegradation	When released into the water, this material is expected to have a half-life between 1 and 10 days. This material has an estimated bioconcentration factor (BCF) of less than 100. When released into the air, this material is expected to be readily degraded by reaction with photochemically produced hydroxyl radicals. When released into the air, this material is not expected to be degraded by photolysis.
Bioaccumulation	This material is not expected to significantly bioaccumulate.
Soil Mobility	Not determined.
13.	Disposal Consideration
Waste Disposal	Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to approved incinerator approved by waste facility. Processing, use or contamination of this product may change the waste management options. Dispose of container and unused contents in accordance with state and local requirements.
14.	Transport Information
TDG Bulk / Non-Bulk	Regulated.
Hazard Class:	3
U.N. No.	2398
Bulk Quantity	215 Liters / 12000 Ltr.
15.	Regulatory Information
	--Global Chemical Inventories--
U.S. TSCA Inventory	YES
Other TSCA Reg.	YES
Japan	YES
Australia	YES
Canada	YES
	--Other U.S. Federal Regulations --
SARA Section 313	YES

FDA Approval	Not applicable.			
	-- Product Registrations --			
	Not Registered			
	-- Other / International --			
	Not applicable.			
16.	Other Information			
	Health	Flammability	Reactivity	Special
	2	3	0	N/E
	N / E - None established			
Precautionary Labels	DANGER! EXTREMELY FLAMMABLE LIQUID AND VAPOR. VAPOR MAY CAUSE FLASH FIRE. HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. MAY AFFECT CENTRAL NERVOUS SYSTEM, BLOOD & KIDNEYS. A CENTRAL NERVOUS SYSTEM DEPRESSANT. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT.			

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