

**TAG SOLVENT PRODUCTS (PTY)LTD.****MATERIAL SAFETY DATA SHEET****METHOXYPROPYL ACETATE MPA****1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

<b>Common name</b>	<b>Methoxypropyl Acetate MPA</b>		
<b>Supplier</b>	: TAG Solvent Products Mallet Road/Weg Knights Germiston 1401 Republic of South Africa  TEL: +27 11 280-0000		
<b>Synonym</b>			
<b>Trade name</b>			
<b>Manufacturer</b>	: Shell Chemicals Reunion Rocks Road 4110 Isipingo South Africa	<b>In case of emergency</b>	TAG: 011 822 1600

**2 COMPOSITION / INFORMATION ON INGREDIENTS**

<b>Name</b>	<b>CAS#</b>	<b>Exposure Limits</b>
Methoxypropyl Acetate	70657-70-4	<b>ACGIH TLV (United States, 2002).</b> TWA: ppm NA TWA: 350 mg/m <sup>3</sup>

**3 HAZARDS IDENTIFICATION**

<b>Health Hazards</b>	: Slightly irritating to respiratory system. Repeated exposure may cause skin dryness or cracking. Irritating to eyes.
-----------------------	--

See toxicological information (section 11)

<b>4</b> <b>FIRST AID MEASURES</b>
------------------------------------

<b>Skin Contact</b>	: Remove contaminated clothing. Immediately flush skin with large amounts of water for at least 15 minutes, and follow by washing with soap and water if available. If redness, swelling pain and/or blisters occur, transport to the nearest medical facility for additional treatment.
<b>Eye Contact</b>	: Flush eyes with large amounts of water while holding eyelids open, for 15 minutes. Transport to the nearest medical facility for additional treatment.
<b>Ingestion</b>	: If swallowed, do not induce vomiting; transport to nearest medical facility for additional treatment. If vomiting occurs spontaneously, keep head below hips to prevent aspiration.
<b>Advice to Physician</b>	: Causes central nervous system depression. Potential for chemical pneumonitis. Consider: gastric lavage with protected airway, administration of activated charcoal. Consult a Poison Control Centre for guidance.

<b>5</b> <b>FIRE FIGHTING MEASURES</b>
--

Clear fire area of all non-emergency personnel.

<b>Specific Hazards</b>	: Carbon monoxide may be evolved if incomplete combustion occurs. The vapour is heavier than air, spreads along the ground and distant ignition is possible.
<b>Extinguishing Media</b>	: Alcohol-resistant Foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only. Do not discharge extinguishing waters into the aquatic environment.
<b>Protective Equipment for Firefighters</b>	: Wear full protective clothing and self-contained breathing apparatus
<b>Additional Advice</b>	: Keep adjacent containers cool by spraying with water.

<b>6</b>	<b>ACCIDENTAL RELEASE MEASURES</b>
----------	------------------------------------

Observe all relevant local and international regulations

<b>Protective measures</b>	: Avoid Contact with spilled or released material. Immediately remove all contaminated clothing. For guidance on selection of personal protective equipment see Chapter 8 of this Material Safety data Sheet. For guidance on disposal of spilled material see chapter 13 of this Material data Safety Sheet. Shut off leaks, if possible without personal risks. Remove all possible sources of ignition in the surrounding area. Use appropriate containment (of product and fire fighting water) to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth or other appropriate barriers. Attempt to dispense the vapour or to direct its flow to a safe location for example by using fog sprays. Take precautionary measures against static discharge. Ensure electrical continuity by bonding and grounding (earthing) all equipment. Monitor area with combustible gas indicator.
<b>Clean Up Methods</b>	: FOR SMALL LIQUID SPILLS (< 1 drum), transfer by mechanical means to a labelled, sealable container for product recovery or safe disposal. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely. : FOR LARGE LIQUID SPILLS (> 1 drum), transfer by mechanical means such as vacuum truck to a salvage tank for recovery or safe disposal. Do not flush away residues with water. Retain as contaminated waste. Allow residues to evaporate or soak up with an appropriate absorbent material; and dispose of safely. Remove contaminated soil and dispose of safely.
<b>Additional Advice</b>	: See Chapter 13 for information on disposal. Notify authorities if any exposure to the general public or the environment occurs or is likely to occur.

<b>7</b>	<b>HANDLING AND STORAGE</b>
----------	-----------------------------

<b>General Precautions</b>	: Avoid breathing of or contact with material. Only use in well ventilated areas. Wash thoroughly after handling. For guidance on selection of personal protective equipment see Chapter 8 of this Material Safety data Sheet. Use the information on this sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material.
<b>Handling</b>	: Electrostatic charges may be generated during pumping. Electrostatic charges may cause fire. Ensure electrical continuity by bonding and grounding (earthing) all equipment. Restrict line velocity during pumping in order to avoid generation of electrostatic discharge ( $\leq 10\text{m/sec}$ ). Avoid splash filling. Do NOT use compressed air for filling, discharging, or handling operations. Extinguish any naked flames. Do NOT smoke. Remove ignition sources. Avoid sparks. Handling Temperature: Ambient.
<b>Storage</b>	: Keep away from aerosols, flammables, oxidising agents, corrosives and from products harmful or toxic to man or to the environment. Must be stored in a well-ventilated area, away from sunlight, ignition sources and other sources of heat. Storage Temperature: Ambient
<b>Product Transfer</b>	: Keep containers closed when not in use. Do not use compressed air for filling, discharging or handling.
<b>Recommended Materials</b>	: For containers, or container linings use mild steel, stainless steel.
<b>Unsuitable Materials</b>	: Most plastics.: Natural, butyl, neoprene or nitrile rubbers.
<b>Container Advice</b>	: Containers, even those that have been emptied, can contain explosive vapours. Do not cut, drill, grind, weld or perform similar operations on or near containers.

<b>8</b>	<b>EXPOSURE CONTROLS, PERSONAL PROTECTION</b>
----------	---

Occupational Exposure Limits: None established.

<b>Additional Information</b>	: Wash hands before eating, drinking, smoking and using the toilet.
<b>Exposure Controls</b>	: The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances.. Appropriate measures include: Adequate explosion-proof ventilation to control airborne concentrations below the exposure guidelines/limits. Eye washes and showers for emergency use
<b>Personal Protective Equipment</b>	: Personal Protective Equipment (PPE) should meet recommended national standards. Check with PPE suppliers.
<b>Respiratory Protection</b>	: If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation. Where air-filtering respirators are suitable, select an appropriate combination of mask and filter. Select a filter suitable for organic gases and vapours [boiling point >65° Celsius (149° Fahrenheit)] meeting EN141. Where air-filtering respirators are unsuitable (e.g., airborne concentrations are high, risk of oxygen deficiency, confined space) use appropriate positive pressure breathing apparatus.
<b>Hand Protection</b>	: Incidental contact/Splash protection: PVC. Suitability and durability of a glove is dependant on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced.
<b>Eye Protection</b>	: Chemical splash goggles ( Chemical Monogoggles )
<b>Protective Clothing</b>	: Use protective clothing which is chemical resistant to this material. safety shoes and boots should also be chemical resistant

<b>9</b>	<b>PHYSICAL AND CHEMICAL PROPERTIES</b>
----------	---

<b>Appearance</b>	: Clear Liquid.
<b>Odour</b>	: Ethereal
<b>PH</b>	: Not applicable.
<b>Boiling point</b>	: 143° - 149° C / 289° - 300°F
<b>Flash point</b>	: 45° C / 113° F ( Abel )
<b>Explosion / Flammability limits in air</b>	: 0,5 - 7 % ( V )
<b>Vapour pressure</b>	: 420 Pa at 20° C / 68° F
<b>Specific Gravity</b>	: 0.96 - 0.97 at 20° C

<b>10</b>	<b>STABILITY AND REACTIVITY</b>
-----------	---------------------------------

<b>Stability and reactivity</b>	: Stable under normal conditions of use. Reacts with strong oxidising agents. Oxidises on contact with air.
<b>Conditions to Avoid</b>	: Avoid heat, sparks, open flames and other ignition sources.
<b>Materials to Avoid</b>	: Strong oxidizing agents.
<b>Hazardous Decomposition Products</b>	: Thermal decomposition is highly dependent on conditions. A complex mixture of airborne solids, liquids and gases, including carbon monoxide and other organic compounds will be evolved when this material undergoes combustion or thermal or oxidative degradation.
<b>Hazardous Reactions</b>	: Hygroscopic

**11 TOXICOLOGICAL INFORMATION**

<b>Basis for Assessment</b>	: Information given is based on product testing, and/or similar products, and/or components.
<b>Acute Oral Toxicity</b>	: Expected to be of low toxicity: LD50>2000 mg/kg , Rat
<b>Acute Dermal Toxicity</b>	: Expected to be of low toxicity: LD50>2000 mg/kg , Rabbit
<b>Acute Inhalation Toxicity</b>	: Expected to be of low toxicity: LD50 mg/l / 6 hours, Rat.
<b>Skin Irritation</b>	: Prolonged/repeated contact may cause defatting of the skin which can lead to dermatitis. Non irritating to the skin.
<b>Eye Irritation</b>	: Moderately irritating to eyes.
<b>Respiratory Irritation</b>	: Inhalation of vapours or mists may cause irritation to the respiratory System.
<b>Sensitisation</b>	: Not expected to be a skin sensitiser
<b>Repeated Dose Toxicity</b>	: Kidney: caused kidney effects in male rats which are not considered relevant to humans.
<b>Mutagenicity</b>	: Not expected to be mutagenic
<b>Reproductive and Developmental Toxicity</b>	: Not expected to impair fertility. Not a developmental toxicant.

**12 ECOLOGICAL INFORMATION**

<b>Acute Toxicity</b>	
<b>Fish</b>	: Expected to be harmful: LC/EC/IC50 > 100mg/l
<b>Aquatic Vertebrates</b>	: Expected to have low toxicity: LC/EC/IC50 > 100mg/l
<b>Algae</b>	: Low toxicity : LC/EC/IC50 > 100mg/l
<b>Micro-organisms</b>	: Low toxicity: LC/EC/IC50 > 1000mg/l
<b>Mobility</b>	: If product enters soil, it will be highly mobile and may contaminate groundwater. Dissolves in water
<b>Persistence/degradability</b>	: Inherently biodegradable. Oxidises rapidly by photo-chemical reactions in air.
<b>Bioaccumulation</b>	: Not expected to bioaccumulate significantly

**13 DISPOSAL CONSIDERATIONS**

<b>Material Disposal</b>	: Recover or recycle if possible. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations.
<b>Container Disposal</b>	: Drain container thoroughly. After draining, vent in a safe place away from sparks and fire. Residues may cause an explosion hazard . Do not puncture, cut or weld unclean drums. Send to drum recoverer or metal reclaimer.
<b>Local Legislation</b>	: Disposal should be in accordance with applicable regional, national, and local laws and regulations. Local regulations may be more stringent than regional or national requirements and must be complied with.

<b>14</b>	<b>TRANSPORT INFORMATION</b>
-----------	------------------------------

<b>ADR</b>	
<b>Class</b>	3
<b>Packing Group</b>	III
<b>Classification Code</b>	F1
<b>Hazard Identification No</b>	30
<b>UN No</b>	3272
<b>Danger Label ( Primary Risk )</b>	3
<b>Proper Shipping Name</b>	Esters, n.o.s. ( Propylene Glycol Monomethyl Ether Acetate )

<b>IMDG</b>	
<b>Identification number</b>	UN 3272
<b>Proper Shipping Name</b>	ESTERS, N.O.S.
<b>Technical Name</b>	( Propylene Glycol Monomethyl Ether Acetate )
<b>Class / Division</b>	3
<b>Packing group</b>	III
<b>Marine pollutant</b>	No

<b>IATA ( Country variations may apply)</b>	
<b>UN No</b>	3272
<b>Proper Shipping Name</b>	ESTERS, N.O.S.
<b>Technical Name</b>	( Propylene Glycol Monomethyl Ether Acetate )
<b>Class / Division</b>	3
<b>Packing group</b>	III

<b>15</b>	<b>REGULATORY INFORMATION</b>
-----------	-------------------------------

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

<b>EC Label Name</b>	: 1-METHOXY-2-PROPYL ACETATE
<b>EC label / EC Number</b>	: 203-603-9
<b>EC Classification</b>	: Flammable. Irritant.
<b>EC Annex I Number</b>	: 607-195-00-7
<b>EC Symbols</b>	: Xi Irritant
<b>EC Risk Phrases</b>	: R10 Flammable R36 Irritating to eyes.
<b>EC Safety Phrases</b>	: S25 Avoid contact with eyes
<b>AICS</b>	: Listed
<b>DSL</b>	: Listed
<b>ENCS ( JP )</b>	: Listed (2) -3144
<b>INV (CN)</b>	: Listed
<b>TSCA</b>	: Listed
<b>EINECS</b>	: Listed 203-603-9
<b>KECI (KR)</b>	: Listed KE-23315
<b>PICCS (PH)</b>	: Listed
<b>National Legislation OE_HP V</b>	: Listed

<b>Other Information</b>	: In compliance with the Occupational Health and Safety Act 85 of 1993 and satisfying the requirements of Regulation GN1179 being the Hazardous Chemical Substance Regulation. Ambient Air Quality Regulation ( New)
--------------------------	--

**Additional Information: Packaging and transportation of Dangerous goods is in compliance with Chapter VIII of the Regulations in terms of the National Road Traffic Act of 1996. This regulation is supported by SABS codes of Practice SABS 0229 – Packaging of DG for Road Transport, SABS 0233 – IBC for DG and SABS 0232 Parts 1 & 3 –Emergency Response.**

## 16 OTHER INFORMATION

<b>R-Phrase(s)</b>	R10 Flammable R36 Irritating to eyes R37 Irritating to respiratory system R61 May cause harm to the unborn child.
<b>MSDS Version Number</b>	: 1
<b>MSDS Effective Date</b>	: 21.07.2003
<b>MSDS Revision</b>	: A vertical bar (I) in the left margin indicates an amendment from the previous version.
<b>MSDS Regulation</b>	: The content and format of this safety data sheet is in accordance with Commission Directive 2001/58/EC of 27 July 2001, amending for the second time Commission Directive 91/155/EEC.
<b>Uses and Restrictions</b>	: Industrial Solvent
<b>MSDS Distribution</b>	: The information in this document should be made available to all who may handle the product.
<b>Disclaimer</b>	: This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

### Notice to reader:

This MSDS summarizes at the date of issue our best knowledge of the health, safety and environmental hazard information related to the product, and in particular how to safely handle, use and transport the product in the workplace. Since TAG Solvent Products (PTY) LTD. and its subsidiaries cannot anticipate or control the conditions under which the product may be handled, used, stored or transported, each user must, prior to usage, review MSDS in the context of how the user intends to handle, use, store or transport the product in the workplace and beyond, and communicate such information to all relevant parties. If clarification or further information is required to ensure that an appropriate assessment can be made, the user should contact the company.

We shall not assume any liability for the accuracy or completeness of the information contained herein or any advice given unless there has been gross negligence on our part. In such event our liability shall be limited only to direct damages suffered. Our responsibility for the product as sold is subject to our standards terms and conditions, a copy of which is sent to our customers and is also available upon request. All risk with possession and application of the product passes on delivery.