Technol® Magnum

Product Description Sheet

Technol Magnum is a highly active organometallic form of magnesium with an average particle size of 0.06 microns containing 13 wt. % magnesium. This specialized product is completely oil-soluble, a clear brown-colored liquid with good stability in the presence of water.

BENEFITS

The use of Technol Magnum will form high melting point compounds with vanadium during combustion, thereby reducing corrosion and sulfur trioxide formation. The product combusts to form particularly active forms of magnesium oxide and hydroxide. These compounds deposit on the various parts of the combustion system from burner tips to the low temperature heat exchangers to absorb any liquid containing SO_3 and moisture.

At temperatures below 270°C, Technol Magnum reacts with acid compounds thereby preventing the corrosion of metal surfaces.

At temperatures above 270°C, Technol Magnum, any SO_3 in the system is dissociated to $SO_3 + H_2O$ and is not corrosive.

APPLICATIONS

Technol Magnum can be directly added to bulk fuel oil storage tanks or injected into the fuel line. The recommended dosage for Gas Turbine applications is 1:3000. If the fuel vanadium content is known, this rate can be adjusted to 3:1Mg : V to control slagging.

Normal precautions in the handling of industrial chemicals and petroleum distillates of low toxicity should be exercised. Skin and eye contact should also be avoided.

Detailed literature on this product, including the Safety Data Sheets and volume Application Chart are available upon request.

Technol Magnum is available in non-returnable 54-gallon drums, tank trucks and tank rail cars. For more information, please contact your Technol representative.

Organometallic Forms of Magnesium

Features & Benefits

- Application dosage 1:3000
- Creates active forms of Magnesium Oxide and Hydroxide
- Prevents corrosion of metal surfaces
- Deposits on various parts of the combustion system from burner tips to heat exchangers
- Reduce harmful effects to burner boxes
- Provides for a more complete burn of the fuel
- Reduces or eliminates acidic odors during combustion by minimizing air atomization
- Neutralizes carbon deposits and trapped SO_3 when H_2SO_4 is present.

Contact your local Technol Distributor or Sales Representative for more information and details.

Technol® Magnum

Technical Data Sheet

PROPERTIES

Appearance	Light Brown
Magnesium, % wt.	13.0
Total Base Number	550
Water, % wt.	-
Viscosity @100°C, cSt	25
Flash Point, COC °C	60°C
Specific Gravity	1.190
Pounds/Gallon	9.934

HANDLING

Technol Magnum is a highly active organometallic liquid form of magnesium and is normally stored at room temperature. For general purposes, the following storage and handling temperatures are recommended:

45°-85°F
[7.2°C-29.4°C]

Normal precautions in the handling of industrial and/or petroleum chemicals should always be observed. Keep this and all other chemicals away from children and animals.

SAFETY INFORMATION

For more comprehensive information on the safe handling, use, storage and transportation of Technol Magnum, please refer to the Safety Data Sheets .

AVAILABILITY

Technol Magnum is readily available in non-returnable 55-gallon drums, tank trucks and tank rail cars. For more information, please contact your Technol representative.

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT FORM:	Liquid Substance
TRADE NAME:	**TECHNOL MAGNUM 270**
CHEMICAL NAME:	Oil-Soluble Organometallic Magnesium Compound
COMPANY:	Technol Fuel Conditioners, Inc. 145 Wyckoff Road Eatontown, NJ 07724 Phone: 1.800.645.4033
EPA REGISTRATION:	Not required - not for on-road use
EMERGENCY PHONE:	Chemtrec: 1.800.424.9300 - within USA and Canada Chemtrec: 1.703.527.3887 - outside USA and Canada

SECTION 2. HAZARDS IDENTIFICATION

GHS CLASSIFICATIONS:

Flammable Liquids: Category 3
Skin Irritation: Category 2
Eye Irritation: Category 2A
Carcinogenicity: Category 2

GHS LABEL ELEMENT

GHS SIGNAL WORD: **WARNING**

GHS HAZARD PICTOGRAMS:

GHS HAZARD STATEMENTS

H226: Flammable liquid
H315: Harmful in contact with skin
H319: Can cause eye irritation
H351: Suspected of causing cancer

GHS PRECAUTIONARY STATEMENTS:

Prevention

P201: Obtain special instructions before use
P202: Do Not handle until all safety precautions have been read and understood
P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233: Keep container tightly closed.

P240 Ground/Bond container and receiving equipment.
P241 Use explosion-proof electrical/ ventilating/ lighting equipment.
P242 Use only non sparking tools.
P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P303 + P361+ P353 IF ON SKIN (or hair) Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305 + P351 P338 IF IN EYES Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313 IF exposed or concerned: get medical advice/ attention.
P332 + P313 IF Skin irritation occurs: Get medical advice/ attention.
P337 + P313 IF eye irritation persists: Get medical advice/ attention.
P363 Take off contaminated clothing and wash before reuse.
P370 + P 378 In case of fire. Use dry sand, dry chemical or alcohol– resistant foam to extinguish.

Storage:

P403 + P235 Store in a well ventilated place. Keep cool.
P405 Store looked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Carcinogenicity:

IARC	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC
OSHA	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA
NTP	No component of this product present at levels greater than or equal to 0.1$ is identified as a known or anticipated carcinogen by NTP.

SECTION 3. COMPOSITION AND INGREDIENTS INFORMATION

INGREDIENTS:

Cas #	%	Chemical Name
546-93-0	>=30 -< 50%	Magnesium carbonate
68476-30-2	>=30-< 50%	Fuel Oil
64741-88-4	>=10 - < 20%	Distillates (Petroleum), solvent-refined heavy Paraffinic
71786-47-5	>=5 -< 10%	Benzenesulfonic acid, mono– and dialkyl derivs., magnesium salts
26544-38-7	>=1 -< 5%	dihydro-3-(tetraproprnyl) furan-2,5-dione

SECTION 4. FIRST AID MEASURES

INHALATION: Overexposure can cause dizziness, lack of coordination, and breathing complications, unlikely to occur under normal usage conditions. Handlers should always wear a self-contained breathing apparatus in the positive mode with a full face-piece due to the likelihood of fumes, smoke, and hazardous component decomposition. Remove to fresh air and deploy artificial respiration if not breathing. Get medical attention.

SKIN CONTACT: Can cause irritation of exposed skin due to defatting of skin tissue. Handlers should always wear rubber gloves. Wash exposed skin vigorously with general soap and water. Get medical attention if skin irritation persists.

EYE CONTACT: Can cause irritation of exposed eye tissue. Handlers should always wear splash-proof goggles. Rinse eyes with cool flowing water for at least 15 minutes and get immediate medical attention.

INGESTION: Can cause irritation of the gastrointestinal tract and possible fatal kidney liver damage. DO NOT INDUCE VOMITING. Deploy artificial respiration if not breathing. Get immediate medical attention.

SECTION 5. FIREFIGHTING MEASURES

Special Hazards and Procedures:
This product poses no unusual fire fighting problems. It will burn if involved in a fire. Oxides of sulfur (SO_2) will be given off while burning. Combustion may produce oxides of carbon and oxides of calcium. Water may be used to cool fire-exposed containers and structures but is not a suitable extinguishing media.

Protective Equipment:
As in any fire, firefighters must be equipped to prevent breathing of vapors or products of combustion. Wear an approved self-contained goggled breathing apparatus, protective gloves and clothing.

Extinguishing Media:
Dry chemical, CO_2 and foam are suitable. Water jets or any water-based fluid are not suitable. Closed containers may be cooled with water. Treat large fires as an oil fire. Oil will float on water and can cause fire to spread. Heat from fire can generate flammable vapor.

SECTION 6. ACCIDENTAL RELEASE PRECAUTIONS

PERSONAL: Wearing suitable protective equipment, eliminate sources of ignition and open nearby windows to ventilate the problem area.

ENVIRONMENTAL: Product has very low solubility in water. Prevent from entering sewer system, surface water or soil.

FOR SPILL CLEAN-UP: Shut off leak and dike up large spills. Absorb with an inert material such as sand, soil or vermiculite. Sweep up absorbent and dispose in accordance with regulatory requirements.

SECTION 7. PRODUCT HANDLING & STORAGE

HANDLING: This product is best stored in its original container. Steel or HDPE containers are recommended replacements and electrically bond and ground all containers and equipment. Avoid contact with eyes, skin and clothing. Avoid breathing vapors, aerosol and mists. Use with adequate ventilation and wash thoroughly after handling. Never use pressure to empty drums.

STORAGE: Full or partially-filled containers should always be kept upright and away from strong oxidizing agents. This product will pump down to 10°F [-12.2°C]. Nonetheless, it is recommended that full or partially-filled containers be stored in a cool dry place between 45° - 85°F [7.2° - 29.4°C]. Store in original container if possible, and keep all chemical containers away from direct sunlight and tightly closed when not in use.

SECTION 8. EXPOSURE CONTROL/PERSONAL PROTECTION

VENTILATION:	None normally required. Use additional ventilation if needed to control vapor concentrations particularly if a mist is generated or fumes from hot material are present.
RESPIRATORY:	None required if area adequately ventilated. Use appropriate respiratory protection if used in confined areas. If used in an application where a mist may be generated, observe a TWA/PEL of 5 mg/m^3 (OSHA, ACGIH) for a mineral oil mist. Use a respirator with dual organic vapor/mist and particulates cartridge if vapor concentration exceeds permissible exposure limit.
SKIN PROTECTION:	Use neoprene-type gloves and apron.
EYE PROTECTION:	Wear chemical safety goggles or a full-plate face shield. Contact lenses should not be worn.

SECTION 9. PHYSICAL & CHEMICAL PROPERTIES

Appearance:	Brown Liquid	Odor:	Oily
Boiling Point:	150 - 370°C	Density at 25°C (gm/cm^3):	1.19
Vapor Pressure:	40 hPasolvent-like	Vapor density (Air = 1):	4solvent-like
Solubility in Water:	Not soluble	Solubility in Organic Solvents:	Soluble
pH:	Not Applicable	Flash point, COC (ASTM D-93):	60°C
Pounds per Gallon:	9.934	Evaporation Rate:	< 1 (Butyl Acetate =1)
Freeze Point:	Not Established	Volatiles By Volume @ 68°F (20°C):	Not Applicable

SECTION 10. STABILITY AND REACTIVITY

This product is stable and not subject to hazardous polymerization.

Hazardous Decomposition Products: Oxides of carbon (carbon monoxide and carbon dioxide), oxides of hydrogen (contaminated and hazardous water), and oxides of Nitrogen can occur when exposed to heat at 350°F (176.7°C).

Incompatible materials: Strong oxidizers such as hydrogen peroxide, oxidizing chlorine, and bromine compounds (e.g. chlorine bleach) and chromic acid should be avoided.

Conditions to avoid: Extreme heat and sources of fire or ignition.

SECTION 11. TOXICOLOGICAL INFORMATION

ROUTES OF EXPOSURE:	Eye contact, skin contact, inhalation of vapors, and ingestion.
ACUTE TOXICITY:	The handling procedures and safety precautions in this SDS should be followed to minimize employee exposure.
CHRONIC EFFECTS:	Can cause eye, skin and gastrointestinal irritation. Irritation of tissue, defatting of skin, gastrointestinal irritation, Kidney and Liver damage.
SYMPTOMS:	Irritation of exposed tissue and organs, blurriness of vision, dizziness, fainting, and lack of physical coordination.
LD50:	Not Established.
NTP/IARC/OSHA:	This product and none of its components are listed as a carcinogens, mutagens, or teratogens.

SECTION 12. ECOLOGICAL INFORMATION

No specific aquatic data is available. This product should be kept away from all bodies of water, and prevented from entering sewer streams. It may be necessary to extract soil where large spills have occurred. No specific Bioaccumulation data is available. No specific Terrain Migration data is available.

SECTION 13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL: This product should be incinerated as a waste oil, at a certified and registered waste disposal site, in compliance with all federal, state and local regulations and requirements.

RCRA STATUS OF UNUSED PRODUCT: Dispose of this product in permitted hazardous wastes sites. Keep this product away lakes, streams, rivers, ponds, sewer systems, and any other body of water.

SECTION 14. TRANSPORTATION INFORMATION

DOT

UN Number	: 1268
Description of the goods	: Petroleum distillates, n.o.s. (fuel oil, no. 2)
Class	: 3
Packing group	: III
Environmentally hazardous	: no

IATA

UN Number	**:** 1268
Proper Shipping Name:	: Petroleum distillates, n.o.s. (fuel oil, no. 2)
Shipping Class:	: 3
Packing Group:	: III

IMDG

UN Number	**:**1268
Description of goods	: Petroleum distillates, n.o.s. (fuel oil, no. 2)
Shipping Class	: 3
Packing Group	: III
EmS Number 1	:F-E
EmS Number 2	:S-E
Marine pollutant	:yes

ICAO Classification:

No Data Available

SECTION 15. REGULATORY INFORMATION

There are no other national and/or regional statutes or information on this product, including OSHA, Department of Transportation, Environmental Protection Agency, Consumer Product Safety Commission, and Right-To-Know Act not previously addressed in this document.

Chemical Name	CAS #	NJ TS Number
None		

SECTION 16. OTHER INFORMATION

This product has not been tested in long term, chronic exposure, therefore, the handling procedures and safety precautions in the SDS should be followed to minimize employee exposure.

Label Information for the United States: CAUTION: May cause skin and eye irritation. Do not swallow. Avoid eye and skin contact. Wash thoroughly after handling. Avoid contact with clothing. Wash clothing before reuse. Keep out of reach of children. Keep containers tightly closed when not in use. Avoid breathing mists or sprays of this product or its solutions.

EMPLOYER RESPONSIBILITY

Employers must ensure that these Material Safety Data Sheets are readily accessible and available to all their employees responsible for the storage, handling, and manipulation of this product. This can be done in many ways, such as organizing all chemicals SDS in freely available binders kept in areas where the chemicals are stored, or on computers the handling employees have access to without the inconvenience of leaving the work or storage area. We strongly recommend the binder method which keeps them available in the event of a power outage or other emergency inhibiting computer use. Employers may want to consider designating two persons (primary and backup) responsible for obtaining and maintaining SDS records. If the employer does not have a particular SDS for a chemical commodity, the employer or responsible designate should contact the chemical manufacturer to obtain one prior to product use.

REFERENCES

OSHA, 29 CR 1910.1200(g) and Appendix D.
United Nations Globally Harmonized System of Classification and Labelling of Chemicals (GHS), 3rd Revised Edition, United Nations, 2009. These references and other information related to the revised Hazard Communication Standard can be found on OSHA's Hazard Communication Safety and Health Topics web site at: http://www.osha.gov/dsg/hazcom/index.html.

DISCLAIMER

This brief provides a general overview of the Material Safety Data Sheet requirements as mandated by the Hazard Communication Standard 29 CFR 1910.1200(g) and Appendix D of 29 CFR 1910.1200. It does not alter or determine compliance responsibilities in the standard or the Occupational Safety and Health Act of 1970. Since interpretations and enforcement policy may change over time, the reader should consult current OSHA interpretations, decisions by the Occupational Safety and Heath Review Commission, and the courts for additional guidance on OSHA compliance requirement. Please note that states with OSHA-approved state plans may have additional requirements for chemical safety data sheets, outside of those outlined above. For more information on those standards, please visit: http://www.osha.gov/dcsp/osp/statestandards.html.

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