

1. Identification of The Substance/Mixture and of The Company / Undertaking

1.1 Product identifier

Name **M SET**
Chemical Name Sulphate Salt

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses Industrial applications
Uses advised against Additive

1.3 Details of the supplier of the safety data sheet

Company **PLUTO Ground Mühendislik ve Ticaret Anonim Şirketi**
Address Ferhatpaşa SB Mahallesi Gonca Sokak 2. Kısım
Beton Depo No: 2 Z-16/ Z-17 Çatalca/ İSTANBUL
Telephone +90 212 702 5055

1.4 Manufacturer

Company Pluto Ground Technologies
Address 9168 52nd Street SE, Calgary, Alberta T2C 5A9,
Canada
Telephone +1 587 973 1983
Web www.plutogt.com

1.5 Person Responsible for Safety Data Sheet

Name Brian Tomlinson
Telephone +1 587 973 1983
E-mail Address philiptomlinson@plutogt.com

1.6 Emergency telephone number

Company Emergency +994 51-846-48-82

2. Hazards Identification

2.1 Classification of the substance or mixture (EC regulation criteria 1272/2008 (CLP):

2.2 Label elements

Hazard pictograms (CLP):
Not applicable

Signal word:
Not applicable

Hazard statements (CLP):
Not applicable

EUH statements (CLP):
Not applicable

2.3 Other hazards

Results of PBT and vPvB assessment: Not applicable. Risk of dust explosion.

3. Composition/Information On Ingredients

3.1 Substances / Mixtures

Name	Product identifier	%	Classification
Sulphate Salt	CAS No: 7487-88-9 EC: 231-298-2	100	Not classified

Full text of H-statements: see section 16

4. First Aid Measures

4.1 Description of first aid measures

Additional advice

Pay attention to self-protection. Concerning personal protective equipment to use, see section 8. Never give anything by mouth to an unconscious person. In case of doubt or persistent symptoms, consult always a physician.

Show this safety data sheet to the doctor in attendance.

Inhalation

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

If breathing is difficult, give oxygen. Get medical attention.

Skin contact

Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops. Cold water may be used.

Eyes contact

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention.

Ingestion

Do NOT induce vomiting unless directed to do so by medical personnel.

Never give anything by mouth to an unconscious

person. Loosen tight clothing such as a collar, tie, belt or waistband.

Get medical attention if symptoms appear.

4.2 Most important symptoms and effects, both acute and delayed

Inhalation Dust, may cause respiratory tract irritation. Inhalation may cause mechanical irritation to the respiratory tract.

Ingestion Ingestion may cause diarrhea.

Skin Contact Skin contact may cause mechanical irritation.

No effects

Eye Contact No effects

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

5. Firefighting Measures

5.1 Extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

Incombustible material. Thermal decomposition can lead to the escape of irritating gases and vapours. Avoid dust formation.

Explosion hazard: Risk of dust explosion.

Hazardous decomposition products in case of fire: Produces toxic and irritating fumes of - Sulphur oxides, and Magnesium oxide.

It may melt with loss of steam.

5.3 Advise for firefighters

Evacuate area. Use water spray or fog for cooling exposed containers.

Contain the extinguishing fluids by bunding.

Prevent fire fighting water from entering the environment.

Avoid dust formation. Knock down/dilute dust cloud with water spray.

Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus.

5.4 Other information

Do not allow run-off from fire-fighting to enter drains or water courses. Dispose of waste in accordance with environmental legislation.

In the case of an accident or other emergency, act according to the Internal Emergency Plan and Information Forms.

6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel:

Evacuate unnecessary personnel. Keep upwind. Provide adequate ventilation. Wear recommended personal protective equipment. Concerning personal protective equipment to use, see section 8. Do not breathe dust. Avoid contact with skin, eyes and clothing.

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ensure equipment is adequately earthed.

Use explosion-proof equipment. Use only non-sparking tools.

6.1.2. For emergency responders:

Ensure procedures and training for emergency decontamination and disposal are in place.

Concerning personal protective equipment to use, see section 8.

6.2 Environmental precautions

Do not allow to enter into surface water or drains. Notify authorities if product enters sewers or public waters.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up: Clear spillage immediately. Sweep up into a suitable container for disposal in accordance with local authority regulations.

6.4 Reference to other sections

Concerning personal protective equipment to use, see section 8.

Concerning disposal elimination after cleaning, see section 13.

7. Handling and Storage

7.1 Precautions for safe handling

Provide adequate ventilation.

Use personal protective equipment as required. Concerning personal protective equipment to use, see section 8.

Do not breathe dust. Do not ingest. Avoid contact with eyes. Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Contaminated work clothing must not be allowed out of the workplace.

Avoid dust formation. Keep away from incompatibles such as oxidizing agents, acids.

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. - No smoking.

Ground/bond container and receiving equipment.

Use explosion-proof equipment. Use only non-sparking tools.

Hygiene measures:

Keep good industrial hygiene.

Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Do not eat, drink or smoke when using this product. Keep away from food, drink and animal feedingstuffs. Remove contaminated clothes. Separate working clothes from town clothes. Launder separately. Wash contaminated clothing before reuse.

Do not make direct contact with the substance without taking the precautions described in section 8. Work in accordance with the provisions of the "Regulation on Health and Safety Precautions in the Work of Chemical Substances" and the "Regulation on Health and Safety Precautions in Carcinogenic or Mutagenic Activities".

7.2 Conditions for safe storage, including any incompatibilities

Technical measures: Keep container tight closed.

Storage conditions: Store in a dry, cool and well-ventilated place. Do not store near or with any of the incompatible materials listed in section 10.

Avoid exposure to water and excessive heat. Avoid zinc and zinc alloys. Heat and ignition sources: Keep away from open flames, hot surfaces and sources of ignition. Do not smoke.

Special rules on packaging: Keep in properly labelled containers. Packaging materials: Keep only in the original container.

7.3 Specific end use(s)

No additional information available

8. Exposure Controls/Personal Protection

8.1 Control parameters

There is no occupational limit of substance

8.2 Exposure controls

Engineering measure(s) Provide adequate ventilation. Organisational measures to prevent/limit releases, dispersion and exposure. Safe handling: see section 7. Apply measures to prevent dust explosions. Ensure equipment is adequately earthed.

Personal protective equipment

The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Not required for normal conditions of use.

In case of insufficient ventilation, wear suitable respiratory equipment.

Filter type: P (EN 143)

Eye protection

Use suitable eye protection. (EN166): Safety glasses with side shields.

Hand protection

Wear chemically resistant gloves (tested to EN 374)

Suitable material: Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances.

Body protection

Wear suitable protective clothing. Wear suitable coveralls to prevent exposure to the skin.

Thermal hazard protection

Not required for normal conditions of use. Use dedicated equipment.

Environmental exposure controls

Avoid release to the environment. Comply with applicable community environmental protection legislation.

9. Physical and Chemical Properties**9.1 Information on basic physical and chemical properties**

Physical state	Solid powder
Colour	White
Odour	Odourless
pH (25 °C- 50 g/l)	ca. 7,9
Density (20 °C)	2,66 g/cm ³
Melting point °C	No data available
Boiling point	No data available
Flash point	Not applicable
Relative density	0.4 g/cm ³
Auto-Decomposition temperature	No data available
Flammability (solid,gas)	Not applicable
Vapour pressure	< 0,1 hPa at 20 °C
Solubility	ca.73,8 g/l at 100 °C
Explosive properties	Not applicable
Oxidising properties	Not applicable
Explosive limits	Not applicable

10. Stability and Reactivity

10.1 Reactivity

No special measures known.
Reference to other sections: 10.4 & 10.5

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

In case of fire; produces toxic and irritating fumes of - Sulphur oxides, and Magnesium oxide

10.4 Conditions to avoid

The substance decomposes when heated. Decomposition temperature: 1124 °C
Hygroscopic; Moisture - product attracts water from the air. Keep container tightly closed.
Slightly corrosive in presence of steel.
Safe handling: see section 7.

10.5 Incompatible materials

Strong oxidizing agents. Risk of explosion in contact with: acetylene compounds; 1-ethoxy-3-methyl-1-butin-3-ol; metal powder
Safe handling: see section 7.

10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Sulphate Salt.
Reference to other sections: 5.2

11. Toxicological Information

11.1 Information on toxicological effects

Acute toxicity(oral) : Product has been classified as not hazardous in terms of physicochemical and health effects.

Magnesium Sulphate

Acute Oral Toxicity (LD50): >2000 mg/kg [Rat]

Acute toxicity(dermal) : Not classified

Acute toxicity(inhalation) : LD50 Inhalation > 2.000 mg/l [Rabbit]

LD50 Intraperitoneal: 1.029 mg/kg [Mouse]

Skin corrosion / irritation: No skin irritation in vitro assay

Serious eye damage / irritation : No eye irritation (OECD Test Guideline 405)

Respiratory or skin sensitisation: Did not cause sensitisation on laboratory animals. Does not cause skin sensitisation. (in vivo assay) - Mouse (OECD Test Guideline 429)

Effects on Repeated Doses Chronic Exposures: Vomiting, Diarrhoea, Central nervous system depression, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Germ cell mutagenicity : Not classified

Carcinogenicity: Not classified

Other Toxic Effects on Humans: Not classified

Carcinogenicity - IARC: Not classified

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.

Reproductive toxicity : Not classified

STOT –single exposure : Not classified

STOT- repeated exposure: Not classified

Aspiration hazard: Not classified

12. Ecological Information

12.1 Toxicity

Ecology – general :The product is not considered harmful to aquatic organisms nor to cause long- term adverse effects in the environment.

Acute aquatic toxicity :Not classified

Acute Fish Toxicity (LC50, 96 Hours): 2.820 mg/l *Pimephales promelas* (fathead minnow)

Acute Aquatic Crustaceans Toxicity (EC50, 48 Hours: 343,56 mg/l *Daphnia magna* (Water flea)

Acute Algae Toxicity (EC50) Algae (72 hours): 2.700 mg/l (*Desmodesmus subspicatus* (green algae)

Chronic aquatic toxicity :Not classified

12.2 Persistence and degradability:

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment:

No data available

12.6 Other adverse effects

No additional information available.

13. Disposal Considerations

13.1 Waste treatment methods

Avoid release to the environment.

Dispose of empty containers and wastes safely. Safe handling: see section 7.

Refer to manufacturer/supplier for information on recovery/recycling.

Recycling is preferred to disposal or incineration. If recycling is not possible, eliminate in accordance with local valid waste disposal regulations.

Handle contaminated packages in the same way as the substance itself.

Dispose of contaminated materials in accordance with current regulations.

13.2 Contaminated Packaging

Dispose of as unused product.

14. Transport Information

14.1 UN Number (ADR/RID, IMDG, IATA)

Not applicable

14.2 UN Proper ShippingName

Not applicable

14.3 Transport Hazard Class(es)

Not applicable

14.4 Packing Group

Not applicable

14.5 Environmental Hazards

Not applicable

14.6 Special Precautions For User

Not applicable

14.7 Transport In Bulk According to Annex II of Marpol and the IBC Code

Not applicable

15. Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.2 Chemical Safety Assessment

No chemical safety assessment has been carried out

16. Other Information

16.1 Recommended uses and restrictions:

Proprietary information.

16.2 Revision Date, Version and SDS no

This safety datasheet, dated 16.03.2018 is the first issue and complies with the requirements of Regulation (EC) No: 1907/2006 (REACH), Annex II - 1272/2008 CLP; 453/2010

16.3 Prepared by

Gamze Gökdoğan Dalbudak, SDS Author & DGSA Instructor

16.4 Reason of re-issue

First issue

16.5 Number and Full Text of Relevant H and EUH and Phrases Declared in Section 2

Not applicable

16.6 Legal disclaimer

The purpose of the above information is to describe the products only in terms of health and safety requirements.

The information given should not, therefore, be construed as guaranteeing specific properties or as specification.

Customers should satisfy themselves as to the suitability and completeness of such information for their own particular use.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication.

The above information relates only to the specific material(s) designated herein and may not be valid for such material(s) used in combination with any other materials or in any process or

SAFETY DATA SHEET

*According to Regulation (EC) No. 1907/2006 (REACH)
with its amendment Regulation (EU) 2015/830*

*Classification according to Regulation (EC) No. 1272/2008
[CLP] Labelling according to Regulation (EC) No. 1272/2008 [CLP]*

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if the material is altered or processed, unless specified in the text.

The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. Due to the many factors outside our control when using this product, we cannot accept liability for any injury, accident, loss or damage caused through its use.