

SECTION 1: Identification

1.1. Identification

Product form : Mixture
 Product name : MetaDi Oil-Based Diamond Suspension
 Product code : 40-6538, 40-6539, 40-6540, 40-6541, 40-6542, 40-6543, 40-6544, 40-6545, 40-6546

1.2. Recommended use and restrictions on use

Use of the substance/mixture : Laboratory chemicals
 Recommended use : Laboratory chemicals
 Restrictions on use : None known

1.3. Supplier

Buehler
 41 Waukegan Rd
 Lake Bluff, IL 60044
 T 1-847-295-6500
custserv@buehler.com

1.4. Emergency telephone number

Emergency number : Global Access Code: 334545; Americas" +1 760 476 3962; Middle East/Africa: +1 760 476 3959;
 Asia Pacific +1 760 476 3960; Europe +1 760 476 3961

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Flammable liquids Category 3 H226 Flammable liquid and vapor
 Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) : Warning
 Hazard statements (GHS US) : H226 - Flammable liquid and vapor
 Precautionary statements (GHS US) : 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.
 P243 - Take precautionary measures against static discharge.
 P280 - Wear protective gloves/protective clothing/eye protection/face protection.
 P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
 P370+P378 - In case of fire: Use media other than water to extinguish.

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P403+P235 - Store in a well-ventilated place. Keep cool.

P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

| Name | Product identifier | % | GHS US classification |
|---|---------------------|---------|-----------------------|
| Petroleum distillates, hydrotreated light | CAS-No.: 64742-47-8 | 65 – 95 | Asp. Tox. 1, H304 |

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

| | |
|---------------------------------------|--|
| First-aid measures after inhalation | : Remove person to fresh air and keep comfortable for breathing. |
| First-aid measures after skin contact | : Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing. |
| First-aid measures after eye contact | : Rinse eyes with water as a precaution. |
| First-aid measures after ingestion | : Call a poison center/doctor/physician if you feel unwell. |

4.2. Most important symptoms and effects (acute and delayed)

No additional information available

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

| | |
|--------------------------------|--|
| Suitable extinguishing media | : Water spray. Dry powder. Foam. Carbon dioxide. |
| Unsuitable extinguishing media | : Not determined. |

5.2. Specific hazards arising from the chemical

| | |
|--|--------------------------------|
| Fire hazard | : Flammable liquid and vapor. |
| Hazardous decomposition products in case of fire | : Toxic fumes may be released. |

5.3. Special protective equipment and precautions for fire-fighters

| | |
|--------------------------------|--|
| Firefighting instructions | : Fight fire with normal precautions from a reasonable distance. |
| Protection during firefighting | : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing. |

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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. No open flames, no sparks, and no smoking.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapors may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Ground/bond container and receiving equipment.

Storage conditions : Store in a well-ventilated place. Keep cool. Keep container tightly closed.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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No additional information available

Petroleum distillates, hydrotreated light (64742-47-8)

No additional information available

Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl, salts with bentonite (68953-58-2)

No additional information available

Diamond (7782-40-3)

No additional information available

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8.2. Appropriate engineering controls

| | |
|----------------------------------|--|
| Appropriate engineering controls | : Ensure good ventilation of the work station. |
| Environmental exposure controls | : Avoid release to the environment. |

8.3. Individual protection measures/Personal protective equipment

Hand protection:

Protective gloves

Eye protection:

Safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

Personal protective equipment symbol(s):



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|---|---------------------|
| Physical state | : Liquid |
| Appearance | : Liquid. |
| Color | : Various colours |
| Odor | : Characteristic |
| Odor threshold | : No data available |
| pH | : No data available |
| Melting point | : Not applicable |
| Freezing point | : No data available |
| Boiling point | : 217.8 °C |
| Flash point | : > 34.4 °C |
| Relative evaporation rate (butyl acetate=1) | : No data available |
| Flammability (solid, gas) | : Not applicable. |
| Vapor pressure | : No data available |
| Relative vapor density at 20 °C | : No data available |
| Relative density | : No data available |
| Density | : 0.8 |
| Solubility | : Insoluble. |
| Partition coefficient n-octanol/water (Log Pow) | : No data available |
| Auto-ignition temperature | : > 260 °C |
| Decomposition temperature | : No data available |
| Viscosity, kinematic | : No data available |
| Viscosity, dynamic | : 85 – 100 cP |
| Explosion limits | : No data available |
| Explosive properties | : No data available |
| Oxidizing properties | : No data available |

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9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Flammable liquid and vapor.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

Strong oxidizing agents.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified.

Acute toxicity (dermal) : Not classified.

Acute toxicity (inhalation) : Not classified.

| Petroleum distillates, hydrotreated light (64742-47-8) | |
|--|---------------|
| LD50 oral rat | > 5000 mg/kg |
| LD50 dermal rabbit | > 2000 mg/kg |
| LC50 Inhalation - Rat | > 5.2 mg/l/4h |

Skin corrosion/irritation : Not classified.

Serious eye damage/irritation : Not classified.

Respiratory or skin sensitization : Not classified.

Germ cell mutagenicity : Not classified.

Carcinogenicity : Not classified.

Reproductive toxicity : Not classified.

STOT-single exposure : Not classified.

STOT-repeated exposure : Not classified.

Aspiration hazard : Not classified.

Viscosity, kinematic : No data available

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SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

Petroleum distillates, hydrotreated light (64742-47-8)

| | |
|-----------------|---|
| LC50 - Fish [1] | 45 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through]) |
| LC50 - Fish [2] | 2.2 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static]) |

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

Petroleum distillates, hydrotreated light (64742-47-8)

| | |
|----------------|----------|
| BCF - Fish [1] | 61 – 159 |
|----------------|----------|

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
Additional information : Flammable vapors may accumulate in the container.

SECTION 14: Transport information

In accordance with DOT / IMDG / IATA

14.1. UN number

| | |
|---------------|----------|
| DOT NA No | : UN1993 |
| UN-No. (IMDG) | : 1993 |
| UN-No. (IATA) | : 1993 |

14.2. UN proper shipping name

| | |
|-----------------------------|---|
| Proper Shipping Name (DOT) | : Flammable liquids, n.o.s. (petroleum distillates) |
| Proper Shipping Name (TDG) | : FLAMMABLE LIQUID, N.O.S. (petroleum distillates) |
| Proper Shipping Name (IMDG) | : FLAMMABLE LIQUID, N.O.S. (petroleum distillates) |
| Proper Shipping Name (IATA) | : Flammable liquid, n.o.s. (petroleum distillates) |

14.3. Transport hazard class(es)

DOT

| | |
|----------------------------------|-----|
| Transport hazard class(es) (DOT) | : 3 |
| Hazard labels (DOT) | : 3 |

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IMDG

Transport hazard class(es) (IMDG) : 3

Hazard labels (IMDG) : 3



IATA

Transport hazard class(es) (IATA) : 3

Hazard labels (IATA) : 3



14.4. Packing group

Packing group (DOT) : III

Packing group (IMDG) : III

Packing group (IATA) : III

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Special precautions for user

DOT

UN-No.(DOT) : UN1993

DOT Special Provisions (49 CFR 172.102) : B1 - If the material has a flash point at or above 38 C (100 F) and below 93 C (200 F), then the bulk packaging requirements of 173.241 of this subchapter are applicable. If the material has a flash point of less than 38 C (100 F), then the bulk packaging requirements of 173.242 of this subchapter are applicable.

B52 - Notwithstanding the provisions of 173.24b of this subchapter, non-reclosing pressure relief devices are authorized on DOT 57 portable tanks.

IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672).

T4 - 2.65 178.274(d)(2) Normal..... 178.275(d)(3)

TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = $97 / 1 + a (tr - tf)$ Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.

TP29 - A portable tank having a minimum test pressure of 1.5 bar (150.0 kPa) may be used provided the calculated test pressure is 1.5 bar or less based on the MAWP of the hazardous materials, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the MAWP.

DOT Packaging Exceptions (49 CFR 173.xxx) : 150

DOT Packaging Non Bulk (49 CFR 173.xxx) : 203

DOT Packaging Bulk (49 CFR 173.xxx) : 242

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DOT Quantity Limitations Passenger aircraft/rail (49 : 60 L
CFR 173.27)
DOT Quantity Limitations Cargo aircraft only (49 : 220 L
CFR 175.75)
DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.

IMDG

Special provision (IMDG) : 223, 274, 955
Limited quantities (IMDG) : 5 L
Excepted quantities (IMDG) : E1
Packing instructions (IMDG) : LP01, P001
IBC packing instructions (IMDG) : IBC03
Tank instructions (IMDG) : T4
Tank special provisions (IMDG) : TP1, TP29
EmS-No. (Fire) : F-E - FIRE SCHEDULE Echo - NON-WATER-REACTIVE FLAMMABLE LIQUIDS
EmS-No. (Spillage) : S-E - SPILLAGE SCHEDULE Echo - FLAMMABLE LIQUIDS, FLOATING ON WATER
Stowage category (IMDG) : A

IATA

PCA Excepted quantities (IATA) : E1
PCA Limited quantities (IATA) : Y344
PCA limited quantity max net quantity (IATA) : 10L
PCA packing instructions (IATA) : 355
PCA max net quantity (IATA) : 60L
CAO packing instructions (IATA) : 366
CAO max net quantity (IATA) : 220L
Special provision (IATA) : A3
ERG code (IATA) : 3L

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

MetaDi Oil-Based Diamond Suspension

| | |
|-------------------------------------|---|
| SARA Section 311/312 Hazard Classes | Physical hazard - Flammable (gases, aerosols, liquids, or solids) |
|-------------------------------------|---|

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

This product or mixture is not known to contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

15.2. International regulations

No additional information available

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

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SECTION 16: Other information

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Revision date : 09/09/2022

| Full text of H-phrases | |
|------------------------|--|
| H226 | Flammable liquid and vapor |
| H304 | May be fatal if swallowed and enters airways |

Safety Data Sheet (SDS), USA - HSI

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