

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**DMTMMT**

Revision date: 28.02.2023

Product code: RL-1105

Page 1 of 10

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

DMTMMT

**Further trade names**

4-(4,6-Dimethoxy-1,3,5-triazin-2-yl)-4-methyl-morpholinium tetrafluoroborate

4-(4,6-dimethoxy-1,3,5-triazin-2-yl)-4-morpholinium tetrafluoroborate

MMTM

Substance name: 4-(4,6-Dimethoxy-1,3,5-triazin-2-yl)-4-methyl-morpholinium tetrafluoroborate

Abbreviation: MMTM

CAS No: 293311-03-2

EC No: 695-570-6

**1.2. Relevant identified uses of the substance or mixture and uses advised against****Use of the substance/mixture**

Laboratory chemical. Manufacture of the substance.

**Uses advised against**

Do not use for private purposes (household).

Restrictions on use: Pharmaceutical substance

**1.3. Details of the supplier of the safety data sheet**Company name: Iris Biotech GmbH  
Street: Adalbert-Zoellner-Straße 1  
Place: D-95615 Marktredwitz, Germany  
Post-office box: 568

D-95605 Marktredwitz, Germany

Telephone: +49 9231 97121 0

Telefax: +49 9231 97121 99

e-mail: info@iris-biotech.de

Contact person: Compliance Department

Telephone: +49 9231 97121 0

e-mail: sds@iris-biotech.de

Internet: www.iris-biotech.de

Responsible Department: Only available during office hours.

**1.4. Emergency telephone number:** +49 (0)89 19240 (POISON CENTER Munich: 24 h)**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****Regulation (EC) No 1272/2008**

Acute Tox. 4; H302

Skin Irrit. 2; H315

Eye Irrit. 2; H319

STOT SE 3; H335

Full text of hazard statements: see SECTION 16.

**2.2. Label elements****Regulation (EC) No 1272/2008****Signal word:** Warning

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**DMTMMT**

Revision date: 28.02.2023

Product code: RL-1105

Page 2 of 10

**Pictograms:**

**Hazard statements**

H302	Harmful if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.

**Precautionary statements**

P264	Wash hands thoroughly after handling.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P302+P352	IF ON SKIN: Wash with plenty of Water.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313	If eye irritation persists: Get medical advice/attention.

**Additional advice on labelling**

Warning - substance not yet tested completely.

**2.3. Other hazards**

No information available.

**SECTION 3: Composition/information on ingredients**
**3.1. Substances**
**Chemical characterization**

4-(4,6-Dimethoxy-1,3,5-triazin-2-yl)-4-methyl-morpholinium tetrafluoroborate

 Sum formula: C<sub>10</sub>H<sub>17</sub>N<sub>4</sub>O<sub>3</sub>\*BF<sub>4</sub>

Molecular weight: 241,27\*86,80 g/mol

**Hazardous components**

CAS No	Chemical name	Quantity
	EC No	
	Index No	
	REACH No	
	Classification (Regulation (EC) No 1272/2008)	
293311-03-2	4-(4,6-Dimethoxy-1,3,5-triazin-2-yl)-4-methyl-morpholinium tetrafluoroborate	100 %
	695-570-6	
	Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2, STOT SE 3; H302 H315 H319 H335	

Full text of H and EUH statements: see section 16.

**Specific Conc. Limits, M-factors and ATE**

CAS No	EC No	Chemical name	Quantity
		Specific Conc. Limits, M-factors and ATE	
293311-03-2	695-570-6	4-(4,6-Dimethoxy-1,3,5-triazin-2-yl)-4-methyl-morpholinium tetrafluoroborate	100 %
		oral: ATE = 500 mg/kg	

**SECTION 4: First aid measures**
**4.1. Description of first aid measures**
**General information**

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**DMTMMT**

Revision date: 28.02.2023

Product code: RL-1105

Page 3 of 10

In all cases of doubt, or when symptoms persist, seek medical advice.

**After inhalation**

Provide fresh air. Medical treatment necessary. Remove casualty to fresh air and keep warm and at rest. In case of irregular breathing or respiratory arrest provide artificial respiration.  
In all cases of doubt, or when symptoms persist, seek medical advice.

**After contact with skin**

Take off immediately all contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical advice/attention. Immediately remove any wetted clothing, shoes or stockings.  
After contact with skin, wash immediately with plenty of water and soap.

**After contact with eyes**

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately. In case of contact with eyes, rinse immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Subsequently consult an ophthalmologist.

**After ingestion**

Rinse mouth immediately and drink plenty of water. Medical treatment necessary. Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person or a person with cramps.  
Do NOT induce vomiting.  
In all cases of doubt, or when symptoms persist, seek medical advice.

**4.2. Most important symptoms and effects, both acute and delayed**

No information available.

**4.3. Indication of any immediate medical attention and special treatment needed**

Treat symptomatically.

**SECTION 5: Firefighting measures****5.1. Extinguishing media****Suitable extinguishing media**

Co-ordinate fire-fighting measures to the fire surroundings. Water spray. alcohol resistant foam. Dry extinguishing powder. Carbon dioxide (CO<sub>2</sub>). Sand.

**Unsuitable extinguishing media**

High power water jet.

**5.2. Special hazards arising from the substance or mixture**

Non-flammable. Thermal decomposition can lead to the escape of irritating gases and vapours.  
In case of fire may be liberated: Carbon dioxide (CO<sub>2</sub>). Carbon monoxide (CO). Nitrogen oxides (NO<sub>x</sub>).  
Fluorhydric acid. Borane/boron oxides.

**5.3. Advice for firefighters**

Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit.

**Additional information**

Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately.  
Do not allow entering drains or surface water. Usual measures for fire prevention.

**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures****General advice**

Provide adequate ventilation. Avoid breathing dust/fume/gas/mist/vapours/spray.  
Avoid contact with skin, eyes and clothes.  
Wear personal protection equipment.  
In case of fire: Evacuate area.

**For non-emergency personnel**

Take up carefully when dry.

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**DMTMMT**

Revision date: 28.02.2023

Product code: RL-1105

Page 4 of 10

**For emergency responders**

Take up mechanically, placing in appropriate containers for disposal. Take up dust-free and set down dust-free.

**6.2. Environmental precautions**

Do not allow to enter into soil/subsoil.  
Do not allow to enter into surface water or drains.

**6.3. Methods and material for containment and cleaning up****For containment**

Avoid dust formation.

**For cleaning up**

Take up mechanically.

**Other information**

Take up mechanically. Treat the recovered material as prescribed in the section on waste disposal. Take up mechanically, placing in appropriate containers for disposal. Avoid dust formation.  
Clear contaminated areas thoroughly.

**6.4. Reference to other sections**

Safe handling: see section 7  
Personal protection equipment: see section 8  
Disposal: see section 13 Treat the recovered material as prescribed in the section on waste disposal.

**SECTION 7: Handling and storage****7.1. Precautions for safe handling****Advice on safe handling**

If handled uncovered, arrangements with local exhaust ventilation have to be used. Avoid dust formation. Do not breathe dust. Provide adequate ventilation.  
Avoid dust formation. Avoid breathing dust/fume/gas/mist/vapours/spray.  
Avoid contact with skin, eyes and clothes.

**Advice on protection against fire and explosion**

Usual measures for fire prevention.

**Advice on general occupational hygiene**

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme.  
Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink. Avoid contact with skin, eyes and clothes. Provide adequate ventilation. Wash hands before breaks and after work.

**Further information on handling**

Protect from light!

**7.2. Conditions for safe storage, including any incompatibilities****Requirements for storage rooms and vessels**

Keep container tightly closed in a cool, well-ventilated place.  
Handle and store contents under inert gas. Protect from moisture.  
storage temperature: +2°C - +8°C

**Hints on joint storage**

No special measures are necessary.

**Further information on storage conditions**

Protect from light!

**7.3. Specific end use(s)**

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

**SECTION 8: Exposure controls/personal protection**

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**DMTMMT**

Revision date: 28.02.2023

Product code: RL-1105

Page 5 of 10

**8.1. Control parameters****Additional advice on limit values**

To date, no national critical limit values exist.

**8.2. Exposure controls****Appropriate engineering controls**

The receiver of our product is singularly responsible for adhering to existing laws and regulations.

**Individual protection measures, such as personal protective equipment****Eye/face protection**

Wear eye/face protection.

Tightly fitting safety goggles. Face shield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Hand protection**

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. 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. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. Wear suitable gloves.

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

**Skin protection**

Use of protective clothing.

**Respiratory protection**

In case of inadequate ventilation wear respiratory protection. If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn.

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Thermal hazards**

No data available

**Environmental exposure controls**

Discharge into the environment must be avoided.

**SECTION 9: Physical and chemical properties****9.1. Information on basic physical and chemical properties**

Physical state:	solid
Colour:	white/ whitish
Odour:	No data available
Odour threshold:	not determined
Melting point/freezing point:	200 - 201 °C

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**DMTMMT**

Revision date: 28.02.2023

Product code: RL-1105

Page 6 of 10

Boiling point or initial boiling point and boiling range:	not determined
Flammability:	not determined
Lower explosion limits:	not determined
Upper explosion limits:	not determined
Flash point:	No data available
Auto-ignition temperature:	not determined
Decomposition temperature:	not determined
pH-Value:	not determined
Viscosity / kinematic:	not applicable
Water solubility:	No data available
Solubility in other solvents not determined	
Dissolution rate:	not determined
Partition coefficient n-octanol/water:	not determined
Dispersion stability:	No data available
Vapour pressure:	not determined
Density:	not determined
Relative density:	not determined
Bulk density:	not determined
Relative vapour density:	not determined
Particle characteristics:	No data available

**9.2. Other information**
**Information with regard to physical hazard classes**
**Explosive properties**

Product is not dust explosive in its original delivery form. The addition of particulate matter, however, results in a dust explosion risk.

Sustaining combustion: No data available

**Self-ignition temperature**

Solid: not determined

Gas: not applicable

**Oxidizing properties**

No data available

**Other safety characteristics**

Evaporation rate: not determined

Solvent content: No data available

Solid content: not determined

Sublimation point: not determined

Viscosity / dynamic: not applicable

Flow time: not applicable

**SECTION 10: Stability and reactivity**
**10.1. Reactivity**

The following applies to flammable, organic substances and mixtures in general: With appropriately fine distribution, when whirled up, a dust explosion potential can generally be assumed.

**10.2. Chemical stability**

Stable under recommended storage conditions.

Sensitivity to light.

**10.3. Possibility of hazardous reactions**

No data available

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**DMTMMT**

Revision date: 28.02.2023

Product code: RL-1105

Page 7 of 10

**10.4. Conditions to avoid**

Protect from moisture.  
Keep away from heat.  
Protect from light!

**10.5. Incompatible materials**

Oxidizing agents, strong.

**10.6. Hazardous decomposition products**

Thermal decomposition can lead to the escape of irritating gases and vapours.  
In case of fire may be liberated: Carbon dioxide (CO<sub>2</sub>). Carbon monoxide (CO). Nitrogen oxides (NO<sub>x</sub>).  
Fluorhydric acid. Borane/boron oxides.

**Further information**

In case of fire: See chapter 5.

**SECTION 11: Toxicological information****11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008****Toxicokinetics, metabolism and distribution**

No data available

**Acute toxicity**

Harmful if swallowed.

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
293311-03-2	4-(4,6-Dimethoxy-1,3,5-triazin-2-yl)-4-methyl-morpholinium tetrafluoroborate				
	oral	ATE 500 mg/kg			

**Irritation and corrosivity**

Causes skin irritation.  
Causes serious eye irritation.

**Sensitising effects**

Based on available data, the classification criteria are not met.

**Carcinogenic/mutagenic/toxic effects for reproduction**

Based on available data, the classification criteria are not met.  
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.

**STOT-single exposure**

May cause respiratory irritation. (4-(4,6-Dimethoxy-1,3,5-triazin-2-yl)-4-methyl-morpholinium tetrafluoroborate)

**STOT-repeated exposure**

Based on available data, the classification criteria are not met.

**Aspiration hazard**

Based on available data, the classification criteria are not met.

**Specific effects in experiment on an animal**

No data available

**Additional information on tests**

Classification according to Regulation (EC) No 1272/2008 [CLP]: Health hazard properties

**Practical experience**

No data available

**11.2. Information on other hazards**

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**DMTMMT**

Revision date: 28.02.2023

Product code: RL-1105

Page 8 of 10

**Endocrine disrupting properties**

No data available

**Further information**

RTECS: No data available

Caution! To the best of our knowledge the toxicological properties of this material have not been thoroughly investigated. Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

Fluoride ion can reduce serum calcium levels possibly causing fatal hypocalcemia.

**SECTION 12: Ecological information****12.1. Toxicity**

Based on available data, the classification criteria are not met.

**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**

This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

**12.6. Endocrine disrupting properties**

This substance does not have endocrine disrupting properties with respect to non-target organisms.

**12.7. Other adverse effects**

Warning - substance not yet tested completely.

**Further information**

Do not allow to enter into surface water or drains.

Do not allow to enter into soil/subsoil.

Avoid release to the environment.

**SECTION 13: Disposal considerations****13.1. Waste treatment methods****Disposal recommendations**

Dispose of waste according to applicable legislation. Dispose of waste according to applicable legislation.

Consult the appropriate local waste disposal expert about waste disposal.

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

**Contaminated packaging**

Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself.

**SECTION 14: Transport information****Land transport (ADR/RID)****14.1. UN number or ID number:**

No dangerous good in sense of this transport regulation.

**14.2. UN proper shipping name:**

No dangerous good in sense of this transport regulation.

**Inland waterways transport (ADN)****14.1. UN number or ID number:**

No dangerous good in sense of this transport regulation.

**14.2. UN proper shipping name:**

No dangerous good in sense of this transport regulation.

**Marine transport (IMDG)****14.2. UN proper shipping name:**

No dangerous good in sense of this transport regulation.



**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**DMTMMT**

Revision date: 28.02.2023

Product code: RL-1105

Page 9 of 10

**Air transport (ICAO-TI/IATA-DGR)****14.2. UN proper shipping name:** No dangerous good in sense of this transport regulation.**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: No

**14.6. Special precautions for user**

No information available.

**14.7. Maritime transport in bulk according to IMO instruments**

not applicable

**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulatory information**

Information according to 2012/18/EU (SEVESO III): Not subject to 2012/18/EU (SEVESO III)

**Additional information**

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)

**National regulatory information**

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).

Water hazard class (D): 3 - highly hazardous to water

**15.2. Chemical safety assessment**

For this substance a chemical safety assessment has not been carried out.

**SECTION 16: Other information****Changes**

This data sheet contains changes from the previous version in section(s): 10,11,12.

**Abbreviations and acronyms**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service

LC50: Lethal concentration, 50%

LD50: Lethal dose, 50%

CLP: Classification, labelling and Packaging

REACH: Registration, Evaluation and Authorization of Chemicals

GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals

UN: United Nations

DNEL: Derived No Effect Level

DMEL: Derived Minimal Effect Level

PNEC: Predicted No Effect Concentration

ATE: Acute toxicity estimate

LL50: Lethal loading, 50%

EL50: Effect loading, 50%

EC50: Effective Concentration 50%

ErC50: Effective Concentration 50%, growth rate

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**DMTMMT**

Revision date: 28.02.2023

Product code: RL-1105

Page 10 of 10

NOEC: No Observed Effect Concentration

BCF: Bio-concentration factor

PBT: persistent, bioaccumulative, toxic

vPvB: very persistent, very bioaccumulative

RID: Regulations concerning the international carriage of dangerous goods by rail

ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways  
(Accord européen relatif au transport international des marchandises dangereuses par voies de navigation  
intérieures)

EmS: Emergency Schedules

MFAG: Medical First Aid Guide

ICAO: International Civil Aviation Organization

MARPOL: International Convention for the Prevention of Marine Pollution from Ships

IBC: Intermediate Bulk Container

SVHC: Substance of Very High Concern

For abbreviations and acronyms, see table at <http://abbrev.esdscom.eu>

**Relevant H and EUH statements (number and full text)**

H302 Harmful if swallowed.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

**Further Information**

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations.