SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

DMT-Cl

Further trade names

4,4'-Dimethoxy-triphenylchloromethane
4,4'-Dimethoxy-triphenylchlormethan
1,1'-(chlorophenylmethylene)bis[4-methoxybenzene]
4,4'-(chloro(phenyl)methylene)bis(methoxybenzene)

Substance name:	4,4'-dimethoxytriphenylmethylchloride (DMT-Cl)
REACH Registration Number:	01-2120766160-61-XXXX
CAS No:	40615-36-9
EC No:	255-002-6

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

GB CLP Regulation

Skin Corr. 1B; H314
Eye Dam. 1; H318
Skin Sens. 1; H317
STOT SE 3; H335
Aquatic Chronic 2; H411

Full text of hazard statements: see SECTION 16.

2.2. Label elements

GB CLP Regulation

Signal word: Danger

Pictograms:

Hazard statements

H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H335	May cause respiratory irritation.
H411	Toxic to aquatic life with long lasting effects.

Precautionary statements

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P310	Immediately call a POISON CENTER/doctor.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P501	Dispose of contents/container to an approved disposal site.

Additional advice on labelling

Warning - substance not yet tested completely.

2.3. Other hazards

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

SECTION 3: Composition/information on ingredients

3.1. Substances

Chemical characterization

4,4'-(chloro(phenyl)methylene)bis(methoxybenzene)

Sum formula: C21H19ClO2

Molecular weight: 338,8 g/mol

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (GB CLP Regulation)			
40615-36-9	4,4'-dimethoxytriphenylmethylchloride (DMT-Cl)			100 %
	255-002-6		01-2120766160-61-XXXX	
	Skin Corr. 1B, Eye Dam. 1, Skin Sens. 1, STOT SE 3, Aquatic Chronic 2; H314 H318 H317 H335 H411			

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

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

First aider: Pay attention to self-protection! Remove affected person from the danger area and lay down. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).
In all cases of doubt, or when symptoms persist, seek medical advice.

After inhalation

Provide fresh air. When in doubt or if symptoms are observed, get medical advice. Remove casualty to fresh air and keep warm and at rest. In case of irregular breathing or respiratory arrest provide artificial respiration.

After contact with skin

After contact with skin, wash immediately with plenty of water and soap. Take off immediately all contaminated clothing and wash it before reuse. Medical treatment necessary.

After contact with eyes

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

After ingestion

Do NOT induce vomiting. Adverse human health effects and symptoms: Gastric perforation. Call a physician immediately. Do not allow a neutralisation agent to be drunk. Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person or a person with cramps.

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. 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 (CO2). Carbon monoxide (CO). Nitrogen oxides (NOx). Hydrogen chloride (HCl).

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 dust formation. Do not breathe dust. Avoid contact with skin, eyes and clothes. Use personal protection equipment.

For non-emergency personnel

Take up carefully when dry.

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

6.3. Methods and material for containment and cleaning up

For cleaning up

Take up mechanically. Treat the recovered material as prescribed in the section on waste disposal. Take up mechanically.

Other information

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 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, drink, smoke, sniff. Take off contaminated clothing.
Avoid contact with skin, eyes and clothes.
Provide adequate ventilation.

Further information on handling

Product is hygroscopic.
Moisture-sensitive.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed. Keep locked up. Store in a place accessible by authorized persons only.
Provide adequate ventilation as well as local exhaustion at critical locations.
Handle and store contents under inert gas. Protect from moisture.
storage temperature: -20 °C

Hints on joint storage

Keep away from strong bases.

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

8.1. Control parameters

Additional advice on limit values

To date, no national critical limit values exist.

8.2. Exposure controls

Appropriate engineering controls

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe dust. 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

Suitable eye protection: goggles.
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).

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:	whitish/ light pink
Odour:	No data available
Odour threshold:	not determined

Test method

Changes in the physical state

Melting point/freezing point:	119 - 125 °C	
Boiling point or initial boiling point and boiling range:	decomposition	OECD 103
Sublimation point:	not determined	
Softening point:	not determined	
Flash point:	No data available	

Flammability

Solid/liquid:	Non-flammable.
Gas:	not applicable

Explosive properties

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

Lower explosion limits:	not determined	
Upper explosion limits:	not determined	
Auto-ignition temperature:	not determined	
Decomposition temperature:	>150 °C	
pH-Value:	not determined	
Viscosity / dynamic:	not applicable	
Viscosity / kinematic:	not applicable	
Flow time:	not applicable	
Water solubility: (at 20 °C)	3 g/L	OECD 105

Solubility in other solvents

not determined

Dissolution rate:	not determined	
Partition coefficient n-octanol/water:	not determined	
Vapour pressure: (at 20 °C)	<0,1 hPa	OECD 104
Density (at 20 °C):	1,28 g/cm³	OECD 109
Relative density (at 20 °C):	1,28	
Bulk density:	not determined	
Relative vapour density:	not determined	

9.2. Other information

Information with regard to physical hazard classes

Sustaining combustion:	No data available

Oxidizing properties

No data available

Other safety characteristics

Solvent content:	No data available
Solid content:	not determined
Evaporation rate:	not determined

Further Information

SECTION 10: Stability and reactivity

10.1. Reactivity

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

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

No data available

10.4. Conditions to avoid

Protect from moisture.
Keep away from heat.

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 (CO2). Carbon monoxide (CO). Nitrogen oxides (NOx).
Hydrogen chloride (HCl).

Further information

In case of fire: See chapter 5.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in GB CLP Regulation

Toxicocinetics, metabolism and distribution

No data available

Acute toxicity

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

Irritation and corrosivity

Causes severe skin burns and eye damage.
Causes serious eye damage.
Skin corrosion/irritation:
Skin - reconstructed human epidermis (RhE)
Result: corrosive - 1 h
OECD 431

Sensitising effects

May cause an allergic skin reaction. (4,4'-dimethoxytriphenylmethylchloride (DMT-Cl))
Sensitization test:
in-vitro
Result: positive
Note: ECHA
KeratinoSens-Test
Result: positive
OECD 442D

Carcinogenic/mutagenic/toxic effects for reproduction

Based on available data, the classification criteria are not met.
Germ cell mutagenicity:
Ames test - Salmonella typhimurium
Result: negative (with metabolic activation), negative (without metabolic activation)
OECD 471 (Ames test)

STOT-single exposure

May cause respiratory irritation. (4,4'-dimethoxytriphenylmethylchloride (DMT-Cl))

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

Practical experience

No data available

11.2. Information on other hazards

Endocrine disrupting properties

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Further information

This substance is classified as hazardous according to Regulation (EC) No 1272 (2008).

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.

SECTION 12: Ecological information

12.1. Toxicity

Toxic to aquatic life with long lasting effects.

CAS No	Chemical name						
	Aquatic toxicity	Dose		[h] | [d]	Species	Source	Method
40615-36-9	4,4'-dimethoxytriphenylmethylchloride (DMT-Cl)						
	Acute algae toxicity	ErC50 mg/l	0,878	72 h	Pseudokirchneriella subcapitata	REACh Registration Dossier	OECD Guideline 201
	Acute crustacea toxicity	EC50 mg/l	>= 4,3	48 h	Daphnia magna (Big water flea)	(External SDS)	OECD 202

12.2. Persistence and degradability

Biodegradability:
aerobic. Exposure time: 28 d
Result: Not biodegradable.
OECD 301B

12.3. Bioaccumulative potential

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
40615-36-9	4,4'-dimethoxytriphenylmethylchloride (DMT-Cl)	5,74

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 UK REACH.
The product has not been tested.

12.6. Endocrine disrupting properties

This substance does not have endocrine disrupting properties with respect to non-target organisms.
The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

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.
Discharge into the environment must be avoided.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. 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:	UN 3261
14.2. UN proper shipping name:	CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. (4,4'-dimethoxytriphenylmethylchloride (DMT-Cl))
14.3. Transport hazard class(es):	8
14.4. Packing group:	II
Hazard label:	8

Classification code:	C4
Special Provisions:	274
Limited quantity:	1 kg
Excepted quantity:	E2
Transport category:	2
Hazard No:	80
Tunnel restriction code:	E

Inland waterways transport (ADN)

14.1. UN number or ID number:	UN 3261
14.2. UN proper shipping name:	CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. (4,4'-Dimethoxytriphenyl-methylchlorid)
14.3. Transport hazard class(es):	8
14.4. Packing group:	II
Hazard label:	8

Classification code:	C4

Special Provisions:	274
Limited quantity:	1 kg
Excepted quantity:	E2

Marine transport (IMDG)

14.1. UN number or ID number:	UN 3261
14.2. UN proper shipping name:	CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. (4,4'-Dimethoxytriphenyl-methylchlorid)
14.3. Transport hazard class(es):	8
14.4. Packing group:	II
Hazard label:	8

Special Provisions:	274
Limited quantity:	1 kg
Excepted quantity:	E2
EmS:	F-A, S-B

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number:	UN 3261
14.2. UN proper shipping name:	CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. (4,4'-Dimethoxytriphenyl-methylchlorid)
14.3. Transport hazard class(es):	8
14.4. Packing group:	II
Hazard label:	8

Special Provisions:	A3 A803
Limited quantity Passenger:	5 kg
Passenger LQ:	Y844
Excepted quantity:	E2
IATA-packing instructions - Passenger:	859
IATA-max. quantity - Passenger:	15 kg
IATA-packing instructions - Cargo:	863
IATA-max. quantity - Cargo:	50 kg

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: Yes

Danger releasing substance: 4,4'-Dimethoxytriphenyl-methylchlorid

14.6. Special precautions for user

Warning: strongly corrosive.

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

Restrictions on use (REACH, annex XVII):

Entry

Information according to 2012/18/EU (SEVESO III): E2 Hazardous to the Aquatic Environment

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
Skin resorption/Sensitization:	Causes allergic hypersensitivity reactions.

15.2. Chemical safety assessment

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

SECTION 16: Other information

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
CAS: Chemical Abstracts Service
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
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
IATA: International Air Transport Association
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
For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety assessment, chapter R.20 (Table of terms and abbreviations).

Relevant H and EUH statements (number and full text)

H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.
H411	Toxic to aquatic life with long lasting effects.

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.