

Safety Data Sheet

according to Regulation (EC) No 1907/2006

MOIIN Tough Clear

Revision date: 30.09.2022

Product code: 023582

Page 1 of 10

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

1.1. Product identifier

MOIIN Tough Clear

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

Uses advised against

pregnant or breastfeeding people should not work with hazardous substances

1.3. Details of the supplier of the safety data sheet

Company name:	DMG Digital Enterprises SE	
Street:	Elbgaustrasse 248	
Place:	D-22547 Hamburg	
Telephone:	+49 40 84006-0	Telefax: +49 40 84006-222
e-mail:	info@dmg-digital.com	
Contact person:	A. Brunner	
Internet:	www.dmg-digital.com	
Responsible Department:	Quality Management	

Further Information

The substance does not require registration according to Regulation (EC) No 1907/2006 [REACH].

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
Skin Sens. 1; H317
STOT SE 3; H335
Aquatic Chronic 3; H412

Full text of hazard statements: see SECTION 16.

2.2. Label elements

Regulation (EC) No 1272/2008

Hazard components for labelling

Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate
diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide

Signal word: Warning**Pictograms:**

Hazard statements

H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements

Safety Data Sheet

according to Regulation (EC) No 1907/2006

MOIIN Tough Clear

Revision date: 30.09.2022

Product code: 023582

Page 2 of 10

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves and eye/face protection.
P405	Store locked up.

Special labelling of certain mixtures

65 - < 70 % of the mixture consists of ingredient(s) of unknown acute toxicity (dermal).
 65 - < 70 % of the mixture consists of ingredient(s) of unknown acute toxicity (inhalation).
 Contains 65 - < 70 % of components with unknown hazards to the aquatic environment.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
7534-94-3	Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate			25 - < 30 %
	231-403-1		01-2119886505-27	
	Skin Irrit. 2, Eye Irrit. 2, STOT SE 3, Aquatic Chronic 3; H315 H319 H335 H412			
75980-60-8	diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide			1 - < 5 %
	278-355-8	015-203-00-X	01-2119972295-29	
	Repr. 2, Skin Sens. 1B, Aquatic Chronic 2; H361f H317 H411			

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	
7534-94-3	231-403-1	Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate	25 - < 30 %
		dermal: LD50 = >3000 mg/kg; oral: LD50 = 3100 mg/kg	
75980-60-8	278-355-8	diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	1 - < 5 %
		dermal: LD50 = > 2000 mg/kg; oral: LD50 = > 5000 mg/kg	

SECTION 4: First aid measures

4.1. Description of first aid measures

After inhalation

Move victim to fresh air. Put victim at rest and keep warm.

After contact with skin

After contact with skin, wash immediately with: Water and soap.

After contact with eyes

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

After ingestion

Call a physician immediately.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Water fog. Extinguishing powder. Sand. Foam. Carbon dioxide (CO₂).

Safety Data Sheet

according to Regulation (EC) No 1907/2006

MOIIN Tough Clear

Revision date: 30.09.2022

Product code: 023582

Page 3 of 10

Unsuitable extinguishing media

High power water jet.

5.2. Special hazards arising from the substance or mixtureCO_x, NO_x**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures****General advice**

Wear suitable protective clothing. Provide adequate ventilation.

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

6.3. Methods and material for containment and cleaning up**Other information**

Take up mechanically.

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

Keep container tightly closed. Wear suitable protective clothing and gloves. Avoid contact with eyes.

Advice on general occupational hygiene

When using do not eat or drink.

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.

Store only in original container.

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Occupational exposure limits**

CAS No	Substance	ppm	mg/m ³	fib/cm ³	Category	Origin
128-37-0	2,6-Ditertiary-butyl-para-cresol	-	2		TWA (8 h)	
79-41-4	Methacrylic acid	20	70		TWA (8 h)	
		40	140		STEL (15 min)	

Safety Data Sheet

according to Regulation (EC) No 1907/2006

MOIIN Tough Clear

Revision date: 30.09.2022

Product code: 023582

Page 4 of 10

DNEL/DMEL values

CAS No	Substance		
DNEL type	Exposure route	Effect	Value
7534-94-3	Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate		
Worker DNEL, long-term	dermal	systemic	1,04 mg/kg bw/day
75980-60-8	diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide		
Worker DNEL, long-term	inhalation	systemic	3,5 mg/m ³
Worker DNEL, long-term	dermal	systemic	1 mg/kg bw/day
128-37-0	2,6-Di-tert-butyl-4-methylphenol		
Worker DNEL, long-term	inhalation	systemic	3,5 mg/m ³
Worker DNEL, long-term	dermal	systemic	0,5 mg/kg bw/day
79-41-4	methacrylic acid; 2-methylpropenoic acid		
Worker DNEL, long-term	dermal	systemic	4,25 mg/kg bw/day
Worker DNEL, long-term	inhalation	systemic	29,6 mg/m ³

Safety Data Sheet

according to Regulation (EC) No 1907/2006

MOIIN Tough Clear

Revision date: 30.09.2022

Product code: 023582

Page 5 of 10

PNEC values

CAS No	Substance	Value
Environmental compartment		
7534-94-3	Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate	
Freshwater		0,00466 mg/l
Freshwater (intermittent releases)		0,0179 mg/l
Marine water		0,000466 mg/l
Freshwater sediment		0,604 mg/kg
Marine sediment		0,06 mg/kg
Micro-organisms in sewage treatment plants (STP)		2,45 mg/l
Soil		0,118 mg/kg
75980-60-8	diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	
Freshwater		0,004 mg/l
Freshwater (intermittent releases)		0,035 mg/l
Marine water		0 mg/l
Freshwater sediment		0,29 mg/l
Marine sediment		0,029 mg/l
Soil		0,056 mg/kg
128-37-0	2,6-Di-tert-butyl-4-methylphenol	
Freshwater		0,000199 mg/l
Freshwater (intermittent releases)		0,00199 mg/l
Marine water		0,000199 mg/l
Freshwater sediment		0,0996 mg/kg
Marine sediment		0,00996 mg/kg
Soil		0,04769 mg/kg
79-41-4	methacrylic acid; 2-methylpropenoic acid	
Freshwater		0,82 mg/l
Freshwater (intermittent releases)		0,82 mg/l
Marine water		0,82 mg/l
Micro-organisms in sewage treatment plants (STP)		10 mg/l
Soil		1,2 mg/kg

8.2. Exposure controls**Appropriate engineering controls**

Ensure adequate ventilation of the storage area.

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

Tightly sealed safety glasses.

Hand protection

Tested protective gloves are to be worn: Suitable material: NBR (Nitrile rubber).

Safety Data Sheet

according to Regulation (EC) No 1907/2006

MOIIN Tough Clear

Revision date: 30.09.2022

Product code: 023582

Page 6 of 10

Respiratory protection

The following must be prevented: inhalation.

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

Physical state:	liquid
Colour:	colourless
Odour:	characteristic

Test method**Changes in the physical state**

Melting point/freezing point:	not determined
Boiling point or initial boiling point and boiling range:	not determined
Sublimation point:	not determined
Softening point:	not determined
Pour point:	not determined
point of decomposition:	not determined estim.
Flash point:	> 93 °C
Lower explosion limits:	not determined
Upper explosion limits:	not determined
pH-Value:	not determined
Water solubility: (at 20 °C)	not determined
Vapour pressure:	not determined
Density:	not determined
Relative vapour density:	> 1

SECTION 10: Stability and reactivity**10.4. Conditions to avoid**

Light. heat.
Decomposition takes place from temperatures above: 200 °C
Decomposition under formation of: Acrylate.

10.5. Incompatible materials

Keep away from strong acids, leachates, heavy metal salts and reducing materials.

10.6. Hazardous decomposition products

In case of fire may be liberated: Gas / vapours, irritant. (Acrylate., pungent)

Further information

Substances sensitive to light.

SECTION 11: Toxicological information**11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008****Acute toxicity**

Harmful if swallowed.
ATEmix (oral, rat): > 2264 mg/kg

Safety Data Sheet

according to Regulation (EC) No 1907/2006

MOIIN Tough Clear

Revision date: 30.09.2022

Product code: 023582

Page 7 of 10

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
7534-94-3	Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate				
	oral	LD50 3100 mg/kg	Rat	supplier SDS	
	dermal	LD50 >3000 mg/kg	Rabbit	supplier SDS/ ECHA	
75980-60-8	diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide				
	oral	LD50 > 5000 mg/kg	Rat	supplier SDS	
	dermal	LD50 > 2000 mg/kg	Rat	supplier SDS	

Irritation and corrosivity

Causes skin irritation.

Causes serious eye irritation.

Frequently or prolonged contact with skin may cause dermal irritation.

Irritant effect on the eye:

Sensitising effects

May cause an allergic skin reaction. (diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide)

May cause sensitization by skin contact.

Carcinogenic/mutagenic/toxic effects for reproduction

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

STOT-single exposure

May cause respiratory irritation. (Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate)

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.

Additional information on tests

Contains Methacrylic esters.: May produce an allergic reaction.

SECTION 12: Ecological information

12.1. Toxicity

Preparation not tested.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

MOIIN Tough Clear

Revision date: 30.09.2022

Product code: 023582

Page 8 of 10

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
7534-94-3	Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate					
	Acute fish toxicity	LC50 mg/l	1,79	96 h	Danio rerio (zebrafish)	supplier SDS OECD 203
	Acute algae toxicity	ErC50 mg/l	2,28	72 h	Pseudokirchneriella subcapitata	supplier SDS OECD 201
	Acute crustacea toxicity	EC50 mg/l	>2,57	48 h	Daphnia magna (Big water flea)	ECHA OECD 202
	Crustacea toxicity	NOEC mg/l	0,233	21 d	Daphnia magna (Big water flea)	supplier SDS OECD 211
75980-60-8	diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide					
	Acute fish toxicity	LC50 mg/l	6,53	96 h	Oryzias latipes (Ricefish)	supplier SDS
	Acute algae toxicity	ErC50 mg/l	> 2,01	72 h	Scenedesmus subspicatus	supplier SDS
	Acute crustacea toxicity	EC50 mg/l	3,53	48 h	Daphnia magna (Big water flea)	supplier SDS
	Acute bacteria toxicity	(EC50 mg/l)	> 1000	3 h	Activated sludge	supplier SDS

12.2. Persistence and degradability

Preparation not tested.

CAS No	Chemical name			
	Method	Value	d	Source
	Evaluation			
7534-94-3	Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate			
	OECD 310	70%	28	
	Readily biodegradable (according to OECD criteria).			
75980-60-8	diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide			
	OECD 301 F	0-10%	28	
	Not readily biodegradable (according to OECD criteria)			

12.3. Bioaccumulative potential

Preparation not tested.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
7534-94-3	Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate	5,09
75980-60-8	diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	3,1

BCF

CAS No	Chemical name	BCF	Species	Source
75980-60-8	diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	18-72		

12.4. Mobility in soil

Preparation not tested.

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

Preparation not tested.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

MOIIN Tough Clear

Revision date: 30.09.2022

Product code: 023582

Page 9 of 10

12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

12.7. Other adverse effects

Preparation not tested.

Further information

Do not allow to enter into surface water or drains. Leakage into the environment must be prevented.

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

Can be burnt together with household waste in compliance with official regulations in contact with approved waste disposal companies and with authorities in charge.

Paste: Carry out a burning of hazardous waste according to official regulations.

List of Wastes Code - residues/unused products

180106 WASTES FROM HUMAN OR ANIMAL HEALTH CARE AND/OR RELATED RESEARCH (EXCEPT KITCHEN AND RESTAURANT WASTES NOT ARISING FROM IMMEDIATE HEALTH CARE); wastes from natal care, diagnosis, treatment or prevention of disease in humans; chemicals consisting of or containing hazardous substances; hazardous waste

SECTION 14: Transport information**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: Yes

**Other applicable information**

No dangerous good in sense of these transport regulations.

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 3, Entry 75

National regulatory information

Water hazard class (D): 2 - obviously hazardous to water

SECTION 16: Other information**Classification for mixtures and used evaluation method according to Regulation (EC) No. 1272/2008 [CLP]**

Classification	Classification procedure
Acute Tox. 4; H302	On basis of test data
Skin Irrit. 2; H315	Calculation method
Eye Irrit. 2; H319	Calculation method
Skin Sens. 1; H317	Calculation method
STOT SE 3; H335	Calculation method
Aquatic Chronic 3; H412	Calculation method

Safety Data Sheet

according to Regulation (EC) No 1907/2006

MOIIN Tough Clear

Revision date: 30.09.2022

Product code: 023582

Page 10 of 10

Relevant H and EUH statements (number and full text)

H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H361f	Suspected of damaging fertility.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Further Information

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(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)