

## m-Phenylenediamine

Version number: GHS 2.0  
Replaces version of: 2019-07-25 (GHS 1)

Revision: 2024-04-29

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

#### 1.1 Product identifier

Identification of the substance **m-Phenylenediamine**  
CAS number 108-45-2  
Alternative name(s) benzene-1,3-diamine  
Article number A0000834

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

Relevant identified uses General use

#### 1.3 Details of the supplier of the safety data sheet

Chemos GmbH & Co. KG  
Sonnenring 7  
84032 Altdorf  
Germany

Telephone: +49 871-966346-0  
Telefax: +49 871-966346-13  
e-mail: chemos@chemos.de  
Website: <http://www.chemos.de/>

e-mail (competent person) chemos@chemos.de

#### 1.4 Emergency telephone number

Emergency information service +49 89 1 92 40

Poison centre				
Country	Name	Postal code/ city	Telephone	Telefax
United Kingdom	National Poison Information Centre Medical Toxicology Unit	SE14 5ER Lon- don	+44 171 635 91 91	

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

Classification acc. to GHS

Section	Hazard class	Category	Hazard class and category	Hazard statement
3.1O	acute toxicity (oral)	3	Acute Tox. 3	H301
3.1D	acute toxicity (dermal)	3	Acute Tox. 3	H311
3.1I	acute toxicity (inhal.)	3	Acute Tox. 3	H331
3.3	serious eye damage/eye irritation	2	Eye Irrit. 2	H319
3.4S	skin sensitisation	1	Skin Sens. 1	H317
3.5	germ cell mutagenicity	2	Muta. 2	H341
4.1C	hazardous to the aquatic environment - chronic hazard	1	Aquatic Chronic 1	H410

For full text of abbreviations: see SECTION 16.

## m-Phenylenediamine

Version number: GHS 2.0  
Replaces version of: 2019-07-25 (GHS 1)

Revision: 2024-04-29

The most important adverse physicochemical, human health and environmental effects  
Spillage and fire water can cause pollution of watercourses.

### 2.2 Label elements

#### Labelling

- Signal word danger

- Pictograms

GHS06, GHS08, GHS09



- Hazard statements

H301+H311+H331 Toxic if swallowed, in contact with skin or if inhaled.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H341 Suspected of causing genetic defects.

H410 Very toxic to aquatic life with long lasting effects.

- Precautionary statements

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P273 Avoid release to the environment.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P311 Call a POISON CENTER/doctor.

P361+P364 Take off immediately all contaminated clothing and wash it before reuse.

P362+P364 Take off contaminated clothing and wash it before reuse.

P391 Collect spillage.

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

P501 Dispose of contents/container to industrial combustion plant.

### 2.3 Other hazards

Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Name of substance m-phenylenediamine

Identifiers

CAS No 108-45-2

EC No 203-584-7

Specific Conc. Limits	M-Factors	ATE	Exposure route
-	-	100 mg/kg 300 mg/kg >0.5 mg/l/4h	oral dermal inhalation: dust/mist

Molecular formula C<sub>6</sub>H<sub>8</sub>N<sub>2</sub>

Molar mass 108.1 g/mol

## m-Phenylenediamine

Version number: GHS 2.0  
Replaces version of: 2019-07-25 (GHS 1)

Revision: 2024-04-29

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

##### General notes

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

##### Following inhalation

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. Provide fresh air.

##### Following skin contact

Rinse skin with water/shower.

##### Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

##### Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting.

#### 4.2 Most important symptoms and effects, both acute and delayed

Symptoms and effects are not known to date.

#### 4.3 Indication of any immediate medical attention and special treatment needed

none

### SECTION 5: Firefighting measures

#### 5.1 Extinguishing media

##### Suitable extinguishing media

Water, Foam, Alcohol resistant foam, ABC-powder

##### Unsuitable extinguishing media

Water jet

#### 5.2 Special hazards arising from the substance or mixture

Deposited combustible dust has considerable explosion potential.

##### Hazardous combustion products

Nitrogen oxides (NO<sub>x</sub>), Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>)

#### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

### SECTION 6: Accidental release measures

#### 6.1 Personal precautions, protective equipment and emergency procedures

##### For non-emergency personnel

Remove persons to safety.

##### For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases.

## m-Phenylenediamine

Version number: GHS 2.0  
Replaces version of: 2019-07-25 (GHS 1)

Revision: 2024-04-29

### 6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it. If substance has entered a water course or sewer, inform the responsible authority.

### 6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains, Take up mechanically

Advice on how to clean up a spill

Take up mechanically.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

### 6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Recommendations

- Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Take precautionary measures against static discharge. Use only in well-ventilated areas. Ground/bond container and receiving equipment.

- Specific notes/details

Dust deposits may accumulate on all deposition surfaces in a technical room. The product in the delivered form is not dust explosion capable; the enrichment of fine dust however leads to the danger of dust explosion.

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

### 7.2 Conditions for safe storage, including any incompatibilities

Managing of associated risks

- Explosive atmospheres

Removal of dust deposits.

- Ventilation requirements

Keep any substance that emits harmful vapours or gases in a place that allows these to be permanently extracted. Use local and general ventilation.

- Packaging compatibilities

Only packagings which are approved (e.g. acc. to ADR) may be used.

### 7.3 Specific end use(s)

See section 16 for a general overview.

## m-Phenylenediamine

Version number: GHS 2.0  
Replaces version of: 2019-07-25 (GHS 1)

Revision: 2024-04-29

### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

Occupational exposure limit values (Workplace Exposure Limits)											
Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m <sup>3</sup> ]	STEL [ppm]	STEL [mg/m <sup>3</sup> ]	Ceiling-C [ppm]	Ceiling-C [mg/m <sup>3</sup> ]	Notation	Source
GB	dust		WEL		10					i	EH40/2005
GB	dust		WEL		4					r	EH40/2005

#### Notation

Ceiling-C ceiling value is a limit value above which exposure should not occur  
i inhalable fraction  
r respirable fraction  
STEL short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)  
TWA time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours  
time-weighted average (unless otherwise specified)

#### Human health values

Relevant DNELs and other threshold levels				
Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
DNEL	0.24 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - systemic effects
DNEL	0.12 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
DNEL	0.49 µg/cm <sup>2</sup>	human, dermal	worker (industry)	acute - local effects

#### Environmental values

Relevant PNECs and other threshold levels				
Endpoint	Threshold level	Organism	Environmental compartment	Exposure time
PNEC	0.001 mg/l	aquatic organisms	freshwater	short-term (single instance)
PNEC	0 mg/l	aquatic organisms	marine water	short-term (single instance)
PNEC	1 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
PNEC	0.004 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
PNEC	0 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
PNEC	0 mg/kg	terrestrial organisms	soil	short-term (single instance)

#### 8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

## m-Phenylenediamine

Version number: GHS 2.0  
Replaces version of: 2019-07-25 (GHS 1)

Revision: 2024-04-29

### Skin protection

#### - Hand protection

In the case of wanting to use the gloves again, clean them before taking off and air them well.

#### - Other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

### Respiratory protection

Particulate filter device (EN 143).

### Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Physical state	solid
Colour	not determined
Odour	characteristic
Melting point/freezing point	63.2 °C at 101.3 kPa
Boiling point or initial boiling point and boiling range	284 °C at 101.3 kPa
Flammability	this material is combustible, but will not ignite readily
Lower and upper explosion limit	not relevant (solid)
Flash point	not applicable
Auto-ignition temperature	not determined
Decomposition temperature	not relevant
pH (value)	not applicable
Kinematic viscosity	not relevant

### Solubility(ies)

Water solubility	429,000 mg/l at 20 °C
------------------	-----------------------

### Partition coefficient

Partition coefficient n-octanol/water (log value)	-0.39 (pH value: 7, 25 °C) (ECHA)
---	-----------------------------------

**m-Phenylenediamine**

Version number: GHS 2.0  
Replaces version of: 2019-07-25 (GHS 1)

Revision: 2024-04-29

Vapour pressure	0.038 Pa at 20 °C
-----------------	-------------------

Density and/or relative density

Density	709 g/l at 22 °C
Relative vapour density	not relevant (solid)

Particle characteristics	no data available
--------------------------	-------------------

**9.2 Other information**

Information with regard to physical hazard classes	hazard classes acc. to GHS (physical hazards): not relevant
--	--

Other safety characteristics

Solid content	100 %
---------------	-------

**SECTION 10: Stability and reactivity**

**10.1 Reactivity**

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

**10.2 Chemical stability**

See below "Conditions to avoid".

**10.3 Possibility of hazardous reactions**

No known hazardous reactions.

**10.4 Conditions to avoid**

There are no specific conditions known which have to be avoided.

Hints to prevent fire or explosion

The product in the delivered form is not dust explosion capable; the enrichment of fine dust however leads to the danger of dust explosion.

**10.5 Incompatible materials**

Oxidisers

**10.6 Hazardous decomposition products**

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

## m-Phenylenediamine

Version number: GHS 2.0  
Replaces version of: 2019-07-25 (GHS 1)

Revision: 2024-04-29

### SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects

##### Classification acc. to GHS

##### Acute toxicity

Toxic if swallowed. Toxic in contact with skin. Toxic if inhaled.

##### - Acute toxicity estimate (ATE)

Oral	100 mg/kg
Dermal	300 mg/kg
Inhalation: dust/mist	>0.5 mg/l/4h

##### Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

##### Serious eye damage/eye irritation

Causes serious eye irritation.

##### Respiratory or skin sensitisation

May cause an allergic skin reaction.

##### Germ cell mutagenicity

Suspected of causing genetic defects.

##### Carcinogenicity

Shall not be classified as carcinogenic.

##### Reproductive toxicity

Shall not be classified as a reproductive toxicant.

##### Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

##### Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

##### Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

#### 11.2 Information on other hazards

There is no additional information.

### SECTION 12: Ecological information

#### 12.1 Toxicity

Very toxic to aquatic life with long lasting effects.

#### 12.2 Persistence and degradability

Data are not available.

#### 12.3 Bioaccumulative potential

Data are not available.

n-octanol/water (log KOW)	-0.39 (pH value: 7, 25 °C) (ECHA)
---------------------------	-----------------------------------

#### 12.4 Mobility in soil

Data are not available.



## m-Phenylenediamine

Version number: GHS 2.0  
Replaces version of: 2019-07-25 (GHS 1)

Revision: 2024-04-29

### 12.5 Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

### 12.6 Endocrine disrupting properties

Information on this property is not available.

### 12.7 Other adverse effects

Data are not available.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

#### Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

## SECTION 14: Transport information

### 14.1 UN number or ID number

ADR/RID	UN 1673
IMDG-Code	UN 1673
ICAO-TI	UN 1673

### 14.2 UN proper shipping name

ADR/RID	PHENYLENEDIAMINES
IMDG-Code	PHENYLENEDIAMINES
ICAO-TI	Phenylenediamines

### 14.3 Transport hazard class(es)

ADR/RID	6.1
IMDG-Code	6.1
ICAO-TI	6.1

### 14.4 Packing group

ADR/RID	III
IMDG-Code	III
ICAO-TI	III

### 14.5 Environmental hazards

hazardous to the aquatic environment

### 14.6 Special precautions for user

Provisions for dangerous goods (ADR) should be complied within the premises.

### 14.7 Maritime transport in bulk according to IMO instruments

The cargo is not intended to be carried in bulk.



## m-Phenylenediamine

Version number: GHS 2.0  
Replaces version of: 2019-07-25 (GHS 1)

Revision: 2024-04-29

### Information for each of the UN Model Regulations



#### **Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) - Additional information**

Classification code	T2
Danger label(s)	6.1, fish and tree
 	
Environmental hazards	yes (hazardous to the aquatic environment)
Special provisions (SP)	279, 802(ADN)
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 kg
Transport category (TC)	2
Tunnel restriction code (TRC)	E
Hazard identification No	60
Emergency Action Code	2X

#### **Regulations concerning the International Carriage of Dangerous Goods by Rail (RID) - Additional information**

Classification code	T2
Danger label(s)	6.1, fish and tree
 	
Environmental hazards	yes (hazardous to water)
Special provisions (SP)	279, 802(ADN)
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 kg
Transport category (TC)	2
Hazard identification No	60

#### **International Maritime Dangerous Goods Code (IMDG) - Additional information**

Marine pollutant	yes (hazardous to the aquatic environment)
Danger label(s)	6.1, fish and tree
 	
Special provisions (SP)	279
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 kg
EmS	F-A, S-A
Stowage category	A

## m-Phenylenediamine

Version number: GHS 2.0  
Replaces version of: 2019-07-25 (GHS 1)

Revision: 2024-04-29

### International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

Environmental hazards YES (hazardous to the aquatic environment)

Danger label(s) 6.1



Special provisions (SP) A113

Excepted quantities (EQ) E1

Limited quantities (LQ) 10 kg

### SECTION 15: Regulatory information

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

#### 15.2 Chemical safety assessment

No Chemical Safety Assessment has been carried out for this substance.

### SECTION 16: Other information

#### Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
1.1	Registration number (REACH): this information is not available		yes
1.4	Emergency information service: +49 89 1 92 40 This number is only available during the following office hours: Mon-Fri 9 a.m. - 5 p.m.	Emergency information service: +49 89 1 92 40	yes
1.4		Poison centre: change in the listing (table)	yes
3.1		EC No: change in the listing (table)	yes
9.1	Appearance		yes
9.1	Colour: various	Colour: not determined	yes
9.1	Other safety parameters		yes
9.1		Lower and upper explosion limit: not relevant (solid)	yes
9.1	Evaporation rate: not determined		yes
9.1	Explosion limits of dust clouds: not determined		yes
9.1		Decomposition temperature: not relevant	yes
9.1		Kinematic viscosity: not relevant	yes
9.1		Density and/or relative density	yes

**m-Phenylenediamine**

Version number: GHS 2.0  
Replaces version of: 2019-07-25 (GHS 1)

Revision: 2024-04-29

Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
9.1	Vapour density: this information is not available		yes
9.1	Viscosity: not relevant (solid matter)		yes
9.1	Explosive properties: none		yes
9.1	Oxidising properties: none		yes
9.1		Relative vapour density: not relevant (solid)	yes
9.1		Particle characteristics: no data available	yes
9.2		Information with regard to physical hazard classes: hazard classes acc. to GHS (physical hazards): not relevant	yes
9.2		Other safety characteristics	yes
11.1		- Acute toxicity estimate (ATE): change in the listing (table)	yes
11.2		Information on other hazards: There is no additional information.	yes
12.5	Results of PBT and vPvB assessment: Data are not available.	Results of PBT and vPvB assessment: According to the results of its assessment, this substance is not a PBT or a vPvB.	yes
12.6	Other adverse effects: Data are not available.	Endocrine disrupting properties: Information on this property is not available.	yes
14.1	UN number: 1673	UN number or ID number	yes
14.1		ADR/RID: UN 1673	yes
14.1		IMDG-Code: UN 1673	yes
14.1		ICAO-TI: UN 1673	yes
14.2	UN proper shipping name: PHENYLENEDIAMINES	UN proper shipping name	yes
14.2		ADR/RID: PHENYLENEDIAMINES	yes
14.2		IMDG-Code: PHENYLENEDIAMINES	yes
14.2		ICAO-TI: Phenylenediamines	yes
14.3	Class: 6.1 (toxic substances) (environmentally hazardous)		yes
14.3		ADR/RID: 6.1	yes

**m-Phenylenediamine**

Version number: GHS 2.0  
Replaces version of: 2019-07-25 (GHS 1)

Revision: 2024-04-29

Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
14.3		IMDG-Code: 6.1	yes
14.3		ICAO-TI: 6.1	yes
14.4	Packing group: III (substance presenting low danger)	Packing group	yes
14.4		ADR/RID: III	yes
14.4		IMDG-Code: III	yes
14.4		ICAO-TI: III	yes
14.7	UN number: 1673		yes
14.7	Proper shipping name: PHENYLENEDIAMINES		yes
14.7	Class: 6.1		yes
14.7	Packing group: III		yes
14.7		Regulations concerning the International Carriage of Dangerous Goods by Rail (RID) - Additional information	yes
14.7		Classification code: T2	yes
14.7		Danger label(s): 6.1, fish and tree	yes
14.7		Danger label(s): change in the listing (table)	yes
14.7		Environmental hazards: yes (hazardous to water)	yes
14.7		Special provisions (SP): 279, 802(ADN)	yes
14.7		Excepted quantities (EQ): E1	yes
14.7		Limited quantities (LQ): 5 kg	yes
14.7		Transport category (TC): 2	yes
14.7		Hazard identification No: 60	yes
14.7	UN number: 1673		yes
14.7	Proper shipping name: PHENYLENEDIAMINES		yes
14.7	Class: 6.1		yes

## m-Phenylenediamine

Version number: GHS 2.0  
Replaces version of: 2019-07-25 (GHS 1)

Revision: 2024-04-29

Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
14.7	Packing group: III		yes
14.7	UN number: 1673		yes
14.7	Proper shipping name: Phenylenediamines		yes
14.7	Class: 6.1		yes
14.7	Packing group: III		yes
16		Abbreviations and acronyms: change in the listing (table)	yes
16	Key literature references and sources for data: Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU. Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).	Key literature references and sources for data: Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). Regulations concerning the International Carriage of Dangerous Goods by Rail (RID). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).	yes

### Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
ADR	Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road)
ATE	Acute Toxicity Estimate
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	Ceiling value
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EH40/2005	EH40/2005 Workplace exposure limits ( <a href="http://www.nationalarchives.gov.uk/doc/open-government-licence/">http://www.nationalarchives.gov.uk/doc/open-government-licence/</a> )
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air

## m-Phenylenediamine

Version number: GHS 2.0  
Replaces version of: 2019-07-25 (GHS 1)

Revision: 2024-04-29

Abbr.	Descriptions of used abbreviations
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
ppm	Parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
STEL	Short-term exposure limit
TWA	Time-weighted average
vPvB	Very Persistent and very Bioaccumulative
WEL	Workplace exposure limit

### Key literature references and sources for data

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). Regulations concerning the International Carriage of Dangerous Goods by Rail (RID). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

### List of relevant phrases (code and full text as stated in section 2 and 3)

Code	Text
H301	Toxic if swallowed.
H311	Toxic in contact with skin.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H341	Suspected of causing genetic defects.
H410	Very toxic to aquatic life with long lasting effects.

### Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.