SAFETY DATA SHEET

Issue Date 07-May-2025
Revision Number 3.07

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier
Product Name m-Phenylenediamine
Other means of identification
Product Code(s) 160-01512,164-01515

Recommended use of the chemical and restrictions on use
Recommended Use For research use only.
Uses advised against Seek expert judgment when using for purposes other than those recommended.

Details of the supplier of the safety data sheet

Manufacturer Address
FUJIFILM Wako Pure Chemical Corporation
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Chuo-ku Osaka 540-8605, Japan
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Distributor
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2. HAZARDS IDENTIFICATION

GHS classification
Classification of the substance or mixture

Acute toxicity - Oral	Category 3
Acute toxicity - Dermal	Category 4
Serious eye damage/eye irritation	Category 2B
Skin sensitization	Category 1
Specific target organ toxicity (single exposure)	Category 1
Category 1 central nervous system, blood	
Specific target organ toxicity (repeated exposure)	Category 1, Category 2
Category 1 urinary bladder	
Category 2 heart, kidneys, muscles, blood system	
Acute aquatic toxicity	Category 2
Chronic aquatic toxicity	Category 1

Pictograms

Signal word Danger

Hazard statements
H320 - Causes eye irritation
H301 - Toxic if swallowed
H312 - Harmful in contact with skin
H317 - May cause an allergic skin reaction
H401 - Toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects
H370 - Causes damage to the following organs: central nervous system, blood
H372 - Causes damage to the following organs through prolonged or repeated exposure: urinary bladder

H373 - May cause damage to the following organs through prolonged or repeated exposure: heart, kidneys, muscles, blood system

Precautionary statements-(Prevention)

Wash face, hands and any exposed skin thoroughly after handling Do not eat, drink or smoke when using this product Wear protective gloves/protective clothing/eye protection/face protection Contaminated work clothing should not be allowed out of the workplace Do not breathe dust/fume/gas/mist/vapors/spray Avoid release to the environment

Precautionary statements-(Response)

IF exposed: Call a POISON CENTER or doctor/physician
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing If eye irritation persists: Get medical advice/attention
IF ON SKIN: Wash with plenty of soap and water Call a POISON CENTER or doctor/physician if you feel unwell Wash contaminated clothing before reuse If skin irritation or rash occurs: Get medical advice/attention
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician Rinse mouth
Collect spillage

Precautionary statements-(Storage)

Store locked up

Precautionary statements-(Disposal)

Dispose of contents/container to an approved waste disposal plant

Others

Other hazards Not available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Single Substance or Mixture Substance

Formula H2NC6H4NH2

Chemical Name	Molecular weight	CAS RN	Weight-%
m-Phenylenediamine	108.14	108-45-2	95.0

Impurities and/or Additives： Not applicable

4. FIRST AID MEASURES

First aid measures

Eye contact Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin contact Wash skin with soap and water.

Inhalation Remove to fresh air.

Ingestion Rinse mouth. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately. Do not induce vomiting without medical advice.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing media

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

Specific hazards arising from the chemical
Thermal decomposition can lead to release of irritating and toxic gases and vapors.

Explosion data
Sensitivity to Mechanical Impact none.
Sensitivity to Static Discharge none.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions, protective equipment and emergency procedures Ensure adequate ventilation, especially in confined areas.

Environmental precautions

Environmental precautions See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods and material for containment and cleaning up Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical measures Avoid contact with strong oxidizing agents.
Protective measures Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage conditions Keep container protect from light tightly closed. Store in a cool (2-10 °C) place. Packed with an inert gas. Store locked up.

Packaging materials Glass.

Incompatible materials Strong oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls
In case of indoor workplace, seal the source or use a local exhaust system. Provide the safety shower facility, and hand- and eye-wash facility. And display their position clearly.

Exposure limits

Chemical Name	ACGIH	OSHA PEL	NIOSH IDLH
m-Phenylenediamine 108-45-2	TWA: 0.1 mg/m^3	N/A	N/A

Personal protective equipment

Respiratory protection Dust mask (JIS T 8151)
Hand protection chemical protective gloves (JIS T 8116)
Eye protection protective eyeglasses or chemical safety goggles (JIS T 8147)
Skin and body protection Long-sleeved work clothes

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	
Color	White - dark brown
Appearance	flakes or shot
Odor	no data available
pH	no data available
Melting point/freezing point	62 - 65 °C
Boiling point, initial boiling point and boiling range	287 °C
Flash point	175 °C
Evaporation rate:	no data available
Flammability (solid, gas):	no data available
Upper/lower flammability or explosive limits	
Upper:	no data available
Lower:	no data available
Vapour pressure	no data available
Vapour density	3.9
Specific Gravity / Relative density	1.139
Solubilities	water , Ethanol , acetone : freely soluble .
n-Octanol/water partition coefficient:(log Pow)	-0.38
Auto-ignition temperature:	no data available
Decomposition temperature:	no data available
Viscosity (coefficient of viscosity)	no data available
Dynamic viscosity	no data available
Particle characteristics	no data available

10. STABILITY AND REACTIVITY

Stability

Chemical stability May be altered by light.
Reactivity no data available

Hazardous reactions

The substance decomposes on burning producing toxic or corrosive gases and fumes.

Conditions to avoid

Extremes of temperature and direct sunlight

Incompatible materials

Strong oxidizing agents

Hazardous decomposition products

Carbon monooxide (CO), Carbon dioxide (CO_2), Nitrogen oxides (NOx)

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
m-Phenylenediamine	280 mg/kg (Rat)	= 1100 mg/kg (Rat)	N/A

Chemical Name	Acute toxicity -oral- source information	Acute toxicity -dermal- source information	Acute toxicity -inhalation gas- source information

m-Phenylenediamine	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.

Chemical Name	Acute toxicity -inhalation vapor- source information	Acute toxicity -inhalation dust- source information	Acute toxicity -inhalation mist- source information
m-Phenylenediamine	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.

Skin irritation/corrosion

Chemical Name	Skin corrosion/irritation source information
m-Phenylenediamine	Based on the NITE GHS classification results.

Serious eye damage/ irritation

Chemical Name	Serious eye damage/irritation source information
m-Phenylenediamine	Based on the NITE GHS classification results.

Respiratory or skin sensitization

Chemical Name	Respiratory or Skin sensitization source information
m-Phenylenediamine	Based on the NITE GHS classification results.

Reproductive cell mutagenicity

Chemical Name	germ cell mutagencity source information
m-Phenylenediamine	Based on the NITE GHS classification results.

Carcinogenicity

Chemical Name	Carcinogenicity source information
m-Phenylenediamine	Based on the NITE GHS classification results.

Chemical Name	NTP	IARC	ACGIH	JSOH
m-Phenylenediamine 108-45-2	N/A	Group 3	N/A	N/A

Reproductive toxicity

Chemical Name	Reproductive toxicity source information
m-Phenylenediamine	Based on the NITE GHS classification results.

STOT-single exposure

Chemical Name	STOT -single exposure- source information
m-Phenylenediamine	Based on the NITE GHS classification results.

STOT-repeated exposure

Chemical Name	STOT -repeated exposure- source information
m-Phenylenediamine	Based on the NITE GHS classification results.

Aspiration hazard

Chemical Name	Aspiration Hazard source information
m-Phenylenediamine	Based on the NITE GHS classification results.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
m-Phenylenediamine 108-45-2	EC50 : Pseudokirchneriella subcapitata = 2.4 mg/L 96 h	LC50 : Oryzias latipes > 100 mg/L 96 h	N/A	EC50 : Daphnia magna 2.0 mg/L 48 h NOEC : Daphnia magna 0.05 mg/L 21 d

Persistence and degradability
No information available

Bioaccumulative potential
No information available

Mobility

Chemical Name	Partition coefficient
m-Phenylenediamine 108-45-2	-0.3

Mobility in soil No information available
Other Data No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Precautionary including method of disposing contaminated packaging Disposal should be in accordance with applicable regional, national and local laws and regulations.

14. TRANSPORT INFORMATION

DOT

UN/ID No	UN1673
Proper shipping name:	Phenylenediamines
UN classfication	6.1
Subsidiary hazard class	
Packing group	III
Marine pollutant	Yes

IATA

UN/ID No	UN1673
Proper shipping name:	Phenylenediamines
UN classfication	6.1
Subsidiary hazard class	
Packing group	III
Environmentally Hazardous Substance	Yes

IMDG

UN/ID No	UN1673
Proper shipping name:	Phenylenediamines
UN classfication	6.1
Subsidiary hazard class	
Packing group	III
Marine pollutant (Sea)	Yes

15. REGULATORY INFORMATION

US Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	CAS RN	Weight-%	SARA 313 - Threshold Values %
m-Phenylenediamine - 108-45-2	108-45-2	95.0	1.0

SARA 311/312 Hazard Categories

Acute health hazard	No

Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

US State Regulations

California Proposition 65
This product does not contain any chemicals regulated by Proposition 65

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
m-Phenylenediamine 108-45-2	X	X	N/A

U.S. EPA Label Information
EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION

Issue Date	25-Apr-2025
Issue Date	07-May-2025

Revision Note
No information available
Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet