SAFETY DATA SHEET

p-Phenylenediamine

ANHUI GOSHEN CHEMICAL COMPANY LIMITED

SDS

- According to GHS (Eighth Revised Edition)

Section 1 Product and Company Identification

> Product Identifier

Product Name	p-Phenylenediamine
Synonyms	-
CAS No.	106-50-3
EC No.	203-404-7
Molecular Formula	$C_6H_8N_2$

> Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

Relevant Identified Uses	Please consult manufacturer.
Uses Advised Against	Please consult manufacturer.

> Details of the Supplier of the Safety Data Sheet

Applicant Name	ANHUI GOSHEN CHEMICAL COMPANY LIMITED
Application Address	Dingyuan salt Industrial park in anhui province
Applicant Post Code	233290
Applicant Telephone	+86-550-4034788
Applicant Fax	+86-4034788
Applicant E-mail	2301055266@qq.com
Supplier Name	ANHUI GOSHEN CHEMICAL COMPANY LIMITED
Supplier Address	Dingyuan salt Industrial park in anhui province
Supplier Post Code	233290
Supplier Telephone	+86-550-4034788
Supplier Fax	+86-4034788
Supplier E-mail	2301055266@qq.com

> Emergency Phone Number

Emergency Phone Number	+86-550-4303080

Section 2 Hazards Identification

Hazard class and label elements of the product according to GHS (the eighth revised edition):

> GHS Hazard Class

Acute Toxicity – Oral	Category 3
Acute Toxicity –	Category 3

Dermal	
Sensitization – Skin	Category 1
Eye Damage/Irritation	Category 2A
Acute Toxicity – Inhalation	Category 3
Hazardous To The Aquatic Environment – Short-Term (Acute) Hazard	Category 1
Hazardous To The Aquatic Environment – Long-Term (Chronic) Hazard	Category 1

> GHS Label Elements

Pictogram

Signal Word **Danger**

> Hazard Statements

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
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

> Precautionary Statements

Prevention

P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P264	Wash contact area thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

Response

P316	Get emergency medical help immediately.
P320	Specific treatment is urgent (see measures on this label).
P321	Specific treatment (see measures on this label).
P330	Rinse mouth.
P391	Collect spillage.
P301+P316	IF SWALLOWED:Get emergency medical help.
P302+P352	IF ON SKIN: Wash with plenty of water.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P333+P317	If skin irritation or rash occurs:Get medical help.
P337+P317	If eye irritation persists:Get medical help.
P361+P364	Take off immediately all contaminated clothing and wash it before reuse.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Storage	
P405	Store locked up.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
Disposal	
P501	Dispose of contents/container in accordance with local/regional/national/ international regulations.

Section 3 Composition/Information on Ingredients

Component	Concentration (weight percent, %)	CAS No.	EC No.
p-phenylenediamine	≥ 99.9	106-50-3	203-404-7

Section 4 First Aid Measures

> Description of First Aid Measures

General Advice	Immediate medical attention is required. Show this safety data sheet (SDS) to the doctor in attendance.
Eye Contact	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician if feel uncomfortable.
Skin Contact	Take off contaminated clothing and shoes immediately. Wash off with plenty of water for at least 15 minutes and consult a physician if feel uncomfortable.
Ingestion	Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a physician or Poison Control Center immediately.
Inhalation	Move victim into fresh air. If breathing is difficult, give oxygen. Do not use mouth to mouth resuscitation if victim ingested or inhaled the substance. If not breathing, give artificial respiration and consult a physician immediately.
Protecting of First-aiders	Ensure that medical personnel are aware of the substance involved. Take precautions to protect themselves and prevent spread of contamination.

> Most Important Symptoms and Effects, both Acute and Delayed

1 Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.

> Indication of Any Immediate Medical Attention and Special Treatment Needed

1 Treat symptomatically.

2 Symptoms may be delayed.

Section 5 Fire Fighting Measures

> Extinguishing Media

Suitable Extinguishing Media	Dry chemical, carbon dioxide or alcohol-resistant foam.
Unsuitable Extinguishing Media	Do not use a solid water stream as it may scatter or spread fire.

> Specific Hazards Arising from the Substance or Mixture

1 May emit poisonous fumes on fire.

2 Containers may explode when heated.
3 Fire exposed containers may vent contents through pressure relief valves.
4 May expansion or decompose explosively when heated or involved in fire.

> Advice for Firefighters

1 As in any fire, wear self-contained breathing apparatus (MSHA/NIOSH approved or equivalent)and full protective gear.
2 Fight fire from a safe distance, with adequate cover.
3 Prevent fire extinguishing water from contaminating surface water or the ground water system.

Section 6 Accidental Release Measure

> Personal Precautions, Protective Equipment and Emergency Procedures

1 Ensure adequate ventilation. Remove all sources of ignition.
2 Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
3 Use personal protective equipment. Avoid breathing vapours, mist, gas or dust.

> Environmental Precautions

1 Prevent further leakage or spillage if safe to do so.
2 Discharge into the environment must be avoided.

> Methods and Materials for Containment and Cleaning Up

1 Absorb spilled material in dry sand or inert absorbent. In case of large amount of spillage, contain a spill by bunding.
2 Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.
3 Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

Section 7 Handling and Storage

> Precautions for Handling

1 Handling is performed in a well ventilated place.
2 Wear suitable protective equipment.
3 Avoid contact with skin and eyes.
4 Keep away from heat/sparks/open flames/ hot surfaces.
5 Take precautionary measures against static discharges.

> Precautions for Storage

1 Keep containers tightly closed.
2 Keep containers in a dry, cool and well-ventilated place.
3 Keep away from heat/sparks/open flames/ hot surfaces.
4 Store away from incompatible materials and foodstuff containers.

Section 8 Exposure Controls/Personal Protection

> Control Parameters

Occupational Exposure Limit Values

Component	Country/Region	Limit Value - Eight Hours		Limit Value - Short Term	
		ppm	mg/m³	ppm	mg/m³
p-phenylenediamine 106-50-3	USA - OSHA	-	0.1	-	-
	South Korea	-	0.1	-	-
	Ireland	-	0.1	-	-
	Germany (AGS)	-	0.1	-	0.2
	Denmark	-	0.1	-	0.2
	Australia	-	0.1	-	-

Biological Limit Values

No information available

Monitoring Methods

1. EN 14042 Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.
2. GBZ/T 160 Determination of toxic substances in workplace air(Series effective standard)and GBZ/T 300 Determination of toxic substances in workplace air(Series standard).

> Engineering Controls

1. Ensure adequate ventilation, especially in confined areas.
2. Ensure that eyewash stations and safety showers are close to the workstation location.
3. Use explosion-proof electrical/ventilating/lighting/equipment.
4. Set up emergency exit and necessary risk-elimination area.

> Personal Protection Equipment

Eye Protection	Tightly fitting safety goggles (approved by EN 166(EU) or NIOSH (US).
Hand Protection	Wear protective gloves（such as butyl rubber）, passing the tests according to EN 374(EU),US F739 or AS/NZS 2161.1 standard.
Respiratory protection	If exposure limits are exceeded or if irritation or other symptoms are experienced, use a full-face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges.
Skin and Body Protection	Wear fire/flame resistant/retardant clothing and antistatic boots.

Section 9 Physical and Chemical Properties

Appearance: White flaky solid

Odor: No information available

Odor Threshold: No information available

pH: No information available

Melting Point/Freezing Point (℃): 139~147

Initial Boiling Point and Boiling Range (℃): 267

Flash Point (℃)(Closed Cup): Not applicable

Evaporation Rate: Not applicable

Flammability: No information available

Upper/lower explosive limits[%(v/v)]: Upper limit: No information available; Lower limit: 1.5

Vapor Pressure (KPa): Not applicable

Relative Vapour Density(Air = 1): Not applicable

Relative Density(Water=1): 1.1

Solubility: Partly miscible with water

n-Octanol/Water Partition Coefficient: No information available

Auto-Ignition Temperature(℃): 400

Decomposition Temperature (℃): No information available

Kinematic Viscosity (mm²/s): Not applicable

Particle characteristics: No information available

Section 10 Stability and Reactivity

Reactivity	Contact with incompatible substances can cause decomposition or other chemical reactions.
Chemical Stability	Stable under proper operation and storage conditions.
Possibility of Hazardous Reactions	No information available
Conditions to Avoid	Incompatible materials, heat, flame and spark.
Incompatible Materials	No information available
Hazardous Decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11 Toxicological Information

> Acute Toxicity

Component	CAS No.	LD_{50}(Oral)	LD_{50}(Dermal)	LC_{50}(Inhalation, 4h)
p-phenylenediamine	106-50-3	80mg/kg(Rat)	No information available	0.92.mg/L(Rat)

> Skin Corrosion/Irritation

No information available

> Serious Eye Damage/Irritation

Causes serious eye irritation(Category 2A)(p-phenylenediamine)

> Skin Sensitization

May cause an allergic skin reaction(Category 1)(p-phenylenediamine)

> Respiratory Sensitization

No information available

> Germ Cell Mutagenicity

No information available

> Carcinogenicity

ID	CAS No.	Component	IARC	NTP
1	106-50-3	p-phenylenediamine	Category 3	Not Listed

> Reproductive Toxicity

No information available

> Reproductive Toxicity (Additional)

No information available

> STOT-Single Exposure

No information available

> STOT-Repeated Exposure

No information available

> Aspiration Hazard

No information available

Section 12 Ecological Information

> Acute Aquatic Toxicity

Component	CAS No.	Fish	Crustaceans	Algae
p-phenylenediamine	106-50-3	LC_{50}: 0.066mg/L (96h)(Fish)	EC_{50}: 0.33mg/L (48h)	ErC_{50}: 0.18mg/L (72h)

> Chronic Aquatic Toxicity

Component	CAS No.	Fish	Crustaceans	Algae
p-phenylenediamine	106-50-3	No information available	NOEC: 0.043mg/L	NOEC: 0.01mg/L

> Others

Persistence and Degradability No information available

Bioaccumulative Potential No information available

Mobility in Soil No information available

Results of PBT and vPvB Assessment p-phenylenediamine does not meet the criteria for PBT and vPvB according to Regulation (EC) No 1907/2006, annex XIII.

Section 13 Disposal Considerations

Waste Chemicals Before disposal should refer to the relevant national and local laws and regulation. Recommend the use of incineration disposal.

Contaminated Packaging Containers may still present chemical hazard when empty. Keep away from hot and ignition source of fire. Return to supplier for recycling if possible.

Disposal Recommendations Refer to Waste chemicals and Contaminated packaging.

Section 14 Transport Information

Transporting Label	
Marine pollutant	Yes
UN Number	1673
UN Proper Shipping Name	PHENYLENEDIAMINES (p-)
Transport Hazard Class	6.1
Transport Subsidiary Hazard Class	NONE
Packing Group	Ⅲ

Section 15 Regulatory Information

> International Chemical Inventory

Component	EINECS	TSCA	DSL	IECSC	NZIoC	PICCS	KECI	AICS	ENCS
p-phenylenediamine	√	√	√	√	√	√	√	√	√

【EINECS】 European Inventory of Existing Commercial Chemical Substances.
【TSCA】 United States Toxic Substances Control Act Inventory.
【DSL】 Canadian Domestic Substances List.
【IECSC】 China Inventory of Existing Chemical Substances.
【NZIoC】 New Zealand Inventory of Chemicals.
【PICCS】 Philippines Inventory of Chemicals and Chemical Substances.
【KECI】 Existing and Evaluated Chemical Substances.
【AICS】 Australia Inventory of Chemical Substances.
【ENCS】 Existing And New Chemical Substances.

Note
"√" Indicates that the substance included in the regulations
"×" That no data or included in the regulations

Section 16 Additional Information

Creation Date	2021/03/26
Revision Date	2023/02/26
Reason for Revision	-

> Disclaimer

This Safety Data Sheet (SDS) was prepared according to UN GHS (the 8th revised edition). The data included was derived from international authoritative database and provided by the enterprise. Other information was based on the present state of our knowledge. We try to ensure the correctness of all information. However, due to the diversity of information sources and the limitations of our knowledge, this document is only for user' s reference. Users should make their independent judgment of suitability of this information for their particular purposes. We do not assume responsibility for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.