Pyridoxine hydrochloride

P0612

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
Reference number: P0612
Issue date: 20/11/2023 Revision date: 20/11/2023 Supersedes version of: 22/05/2017 Version: 3.0

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

1.1. Product identifier

Product form	:	Substance
Trade name	:	Pyridoxine hydrochloride
IUPAC name	:	4,5-bis(hydroxymethyl)-2-methylpyridin-3-ol hydrochloride
EC-No.	:	200-386-2
CAS-No.	:	58-56-0
Product code	:	P0612
Formula	:	$C_8H_{11}NO_3 \cdot HCl$
Synonyms	:	Vitamin B6 Hydrochloride / 5-Hydroxy-6-methyl-3,4-pyridinedimethanol hydrochloride / PN HCl / Aderminehydrochloride / Pyridoxolhydrochloride
Product group	:	Raw material
Other means of identification	:	Vitamin B6

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

1.2.1. Relevant identified uses

Main use category	:	Professional use
Industrial/Professional use spec	:	For professional use only. Duchefa Biochemie B.V. products are intended only for "in vitro laboratory" research purposes.

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Supplier
Duchefa Biochemie B.V.
A. Hofmanweg 71
2031 BH Haarlem
The Netherlands
T +31(0)23-5319093 - F +31(0)23-5318027
info@duchefa.nl

1.4. Emergency telephone number

Emergency number : Supplier contact information:
+31(0)23-5319093 (M-F 09:00-17:00)
+31(0)6-30008100 (outside office hours)

Country	Organisation/Company	Address	Emergency number	Comment
	World Health Organization world directory of poison centres	http://apps.who.int/poisoncentres/		Consult website for a local poison centre

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Serious eye damage/eye irritation, Category 1 H318
Full text of H- and EUH-statements: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :

GHS05

Signal word (CLP) : Danger

Hazard statements (CLP) : H318 - Causes serious eye damage.

Precautionary statements (CLP) : P280 - Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P305+P351+P338+P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type : Mono-constituent

Name	Product identifier	%
Pyridoxine hydrochloride	CAS-No.: 58-56-0 EC-No.: 200-386-2	≥ 99

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Remove victim to fresh air.

First-aid measures after skin contact : Wash off with soap and plenty of water.

First-aid measures after eye contact : In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

First-aid measures after ingestion : Rinse mouth thoroughly with water. Drink plenty of water.

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

Symptoms/effects after eye contact : Causes serious eye damage. Redness, pain.

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 : Alcohol resistant foam. Dry powder. Water spray.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : When heated to decomposition, emits toxic fumes: - COx. - NOx. - Hydrochloric acid fumes.

5.3. Advice for firefighters

Precautionary measures fire : Wear proper protective equipment.
Firefighting instructions : Avoid (reject) fire-fighting water to enter environment. Minimize effects of a dust explosion.
Protection during firefighting : Self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Use good housekeeping practices to avoid rendering dust airborne. Ensure adequate air ventilation. Avoid breathing dust, mist or spray.

6.1.1. For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.
Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Prevent entry to sewers and public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Dispose in a safe manner in accordance with local/national regulations. Sweep up dry powder and dispose properly. Avoid raising powdered materials into airborne dust.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Avoid dust formation. Ensure good ventilation of the work station. Avoid contact with skin and eyes.
Hygiene measures : Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep container tightly closed and protected from light. Store in dry, well-ventilated area. Store at room temperature. Protect from sunlight.

7.3. Specific end use(s)

For professional use only. Duchefa Biochemie B.V. products are intended only for "in vitro laboratory" research purposes.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

No additional information available

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

Pyridoxine hydrochloride (58-56-0)	
DNEL/DMEL (Workers)	
Long-term - systemic effects, dermal	1,05 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	1,9 mg/m³
DNEL/DMEL (General population)	
Long-term - systemic effects,oral	0,35 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	2,8 mg/m³
Long-term - systemic effects, dermal	0,35 mg/kg bodyweight/day
PNEC (Water)	
PNEC aqua (freshwater)	0,072 mg/l
PNEC aqua (marine water)	0,0072 mg/l
PNEC aqua (intermittent, freshwater)	0,72 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	0,27 mg/kg dwt
PNEC sediment (marine water)	26,64 µg/kg dw
PNEC (Soil)	
PNEC soil	11 µg/kg dw
PNEC (STP)	
PNEC sewage treatment plant	100 mg/l

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

No additional information available

8.2.2. Personal protection equipment

Personal protective equipment symbol(s):

8.2.2.1. Eye and face protection

Eye protection			
Type	**Field of application**	**Characteristics**	**Standard**
Safety glasses with side shields	Dust		EN 166

8.2.2.2. Skin protection

Skin and body protection:
Wear suitable protective clothing.

Hand protection					
Type	**Material**	**Permeation**	**Thickness (mm)**	**Penetration**	**Standard**
Gloves	Nitrile rubber (NBR)	6 (> 480 minutes)	0,11		EN ISO 374

8.2.2.3. Respiratory protection

Respiratory protection:
Wear approved mask. Filter type P1 (EN 143)

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

No additional information available

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Solid
Colour	:	White.
Appearance	:	Powder.
Odour	:	Odourless.
Odour threshold	:	Not available
Melting point	:	≈ 205 °C
Freezing point	:	Not available
Boiling point	:	Not available
Flammability	:	Not available
Explosive limits	:	Not applicable
Lower explosion limit	:	Not applicable
Upper explosion limit	:	Not applicable
Flash point	:	Not applicable
Auto-ignition temperature	:	Not applicable
Decomposition temperature	:	Not available
pH	:	2,4 – 3
pH solution concentration	:	5 %
Viscosity, kinematic	:	Not applicable
Solubility	:	Water: ≈ 200 g/l at 20 °C
Partition coefficient n-octanol/water (Log Kow)	:	Not available
Partition coefficient n-octanol/water (Log Pow)	:	-0,7 20 °C , pH 7
Vapour pressure	:	< 0,001 hPa
Vapour pressure at 50°C	:	Not available
Density	:	1,44 g/cm³ Type: 'density' Temp.: 20 °C
Relative density	:	1,44 Type: 'relative density' Temp.: 20 °C
Relative vapour density at 20°C	:	Not applicable
Particle size	:	Not available

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Potential dust explosion hazard.

10.4. Conditions to avoid

- Heat.

10.5. Incompatible materials

Strong acids. Strong bases. Strong oxidizing agent.

10.6. Hazardous decomposition products

Hydrogen chloride. Nitrogen oxides.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

Pyridoxine hydrochloride (58-56-0)	
LD50 oral rat	> 6600 mg/kg
LD50 oral	> 6000 mg/kg LD50 oral mouse

Skin corrosion/irritation : Not classified
pH: 2,4 – 3

Serious eye damage/irritation : Causes serious eye damage.
pH: 2,4 – 3

Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified

Pyridoxine hydrochloride (58-56-0)	
LOAEL (animal/male, F0/P)	125 mg/kg bodyweight

STOT-single exposure : Not classified
STOT-repeated exposure : Not classified
Aspiration hazard : Not classified

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Adverse health effects caused by endocrine disrupting properties : The substance/mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

11.2.2. Other information

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Hazardous to the aquatic environment, short–term (acute) : Not classified

Hazardous to the aquatic environment, long–term (chronic) : Not classified

Pyridoxine hydrochloride (58-56-0)	
LC50 - Fish [1]	> 100 mg/l Oncorhynchus mykiss (Rainbow trout)
EC50 - Crustacea [1]	> 100 mg/l EC50 48h - Daphnia magna [mg/l]
EC50 72h - Algae [1]	72 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)

12.2. Persistence and degradability

Pyridoxine hydrochloride (58-56-0)	
Biodegradation	94 % (28 d, OECD 301E)

12.3. Bioaccumulative potential

Pyridoxine hydrochloride (58-56-0)	
Partition coefficient n-octanol/water (Log Pow)	-0,7 20 °C , pH 7

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Endocrine disrupting properties

Adverse effects on the environment caused by endocrine disrupting properties : The substance/mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %.

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Avoid release to the environment. Dispose in a safe manner in accordance with local/national regulations.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA

ADR	IMDG	IATA
14.1. UN number or ID number		
Not applicable	Not applicable	Not applicable

ADR	IMDG	IATA
14.2. UN proper shipping name		
Not applicable	Not applicable	Not applicable
14.3. Transport hazard class(es)		
Not applicable	Not applicable	Not applicable
14.4. Packing group		
Not applicable	Not applicable	Not applicable
14.5. Environmental hazards		
Not applicable	Not applicable	Not applicable
No supplementary information available		

14.6. Special precautions for user

Overland transport
Not applicable

Transport by sea
Not applicable

Air transport
Not applicable

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

15.1.1. EU-Regulations

REACH Annex XVII (Restriction List)

Not listed on REACH Annex XVII

REACH Annex XIV (Authorisation List)

Not listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Not listed on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

Not listed on the PIC list (Regulation EU 649/2012)

POP Regulation (Persistent Organic Pollutants)

Not listed on the POP list (Regulation EU 2019/1021)

Ozone Regulation (1005/2009)

Not listed on the Ozone Depletion list (Regulation EU 1005/2009)

Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

15.1.2. National regulations

Ensure all national/local regulations are observed.

Germany

Water hazard class (WGK) : WGK 1, Slightly hazardous to water (Classification according to VwVwS, Annex 3; ID No. 8169).

Hazardous Incident Ordinance (12. BImSchV) : Is not subject of the Hazardous Incident Ordinance (12. BImSchV)

Netherlands

SZW-lijst van kankerverwekkende stoffen : The substance is not listed

SZW-lijst van mutagene stoffen : The substance is not listed

SZW-lijst van reprotoxische stoffen – Borstvoeding : The substance is not listed

SZW-lijst van reprotoxische stoffen – Vruchtbaarheid : The substance is not listed

SZW-lijst van reprotoxische stoffen – Ontwikkeling : The substance is not listed

Denmark

Danish National Regulations : Young people below the age of 18 years are not allowed to use the product

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

Indication of changes			
Section	**Changed item**	**Change**	**Comments**
	Revision date	Modified	
	Supersedes	Modified	
	Adverse health effects caused by endocrine disrupting properties	Added	
	LOAEL (animal/male, F0/P)	Added	
	Concentration of the solution used for the pH measurement	Added	
	Substance type	Added	
1.1	Product group	Added	
1.1	Formula	Modified	
1.1	Other means of identification	Added	
2.2	Precautionary statements (CLP)	Modified	
4.1	First-aid measures after eye contact	Modified	
4.2	Symptoms/effects after eye contact	Added	
4.3	Other medical advice or treatment	Added	
5.2	Hazardous decomposition products in case of fire	Modified	
5.3	Protection during firefighting	Added	
5.3	Firefighting instructions	Modified	
6.1	Protective equipment	Added	

Indication of changes			
Section	**Changed item**	**Change**	**Comments**
6.1	Emergency procedures	Added	
6.1	General measures	Modified	
6.3	Methods for cleaning up	Modified	
7.1	Hygiene measures	Added	
7.1	Precautions for safe handling	Modified	
7.2	Storage conditions	Modified	
8.1	PNEC soil	Added	
8.1	PNEC sewage treatment plant	Added	
8.1	PNEC sediment (marine water)	Added	
8.1	PNEC sediment (freshwater)	Added	
8.1	PNEC aqua (marine water)	Added	
8.1	PNEC aqua (intermittent, freshwater)	Added	
8.1	PNEC aqua (freshwater)	Added	
8.1	Long-term - systemic effects,oral	Added	
8.1	Long-term - systemic effects, inhalation	Added	
8.1	Long-term - systemic effects, inhalation	Added	
8.1	Long-term - systemic effects, dermal	Added	
8.1	Long-term - systemic effects, dermal	Added	
8.2	Skin and body protection	Added	
9.1	Log Pow	Modified	
9.1	pH	Modified	
9.1	Relative density	Added	
9.1	Density	Added	
10.3	Possibility of hazardous reactions	Added	
12.1	EC50 72h - Algae [1]	Added	
12.3	Log Pow	Modified	
12.6	Adverse effects on the environment caused by endocrine disrupting properties	Added	
16	Data sources	Modified	

Abbreviations and acronyms:	
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008

Abbreviations and acronyms:	
DPD	Dangerous Preparations Directive 1999/45/EC
DSD	Dangerous Substances Directive 67/548/EEC
EC50	Median effective concentration
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
PBT	Persistent Bioaccumulative Toxic
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
SDS	Safety Data Sheet

Data sources : Manufacturer. ECHA (European Chemicals Agency).

Full text of H- and EUH-statements:	
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
H318	Causes serious eye damage.

Safety Data Sheet (SDS), EU Duchefa 2023

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.