

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Product form : Mixture
Product name : PL HYDRAZINE 1
UFI : DVG0-H0AU-200Q-SPT8

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

Function or use category : Reagent

1.3. Details of the supplier of the safety data sheet

Water-I.D. GmbH
Daimlerstraße 20
D-76344
Eggenstein
Germany
T +49 721 78 20 29 0, F +49 721 78 20 29 11
info@water-id.com

1.4. Emergency telephone number

Emergency number : +49 (0) 89 / 19 24 0 (24 hour service)

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Classification according to Regulation (EC) No. 1272/2008 [CLP]**

Skin corrosion/irritation, Category 1, Sub-Category 1A H314
Full text of H- and EUH-statements: see section 16

Adverse physicochemical, human health and environmental effects

Causes severe skin burns and eye damage.

2.2. Label elements**Labelling according to Regulation (EC) No. 1272/2008 [CLP]**

Hazard pictograms (CLP)



GHS05

Signal word (CLP) : Danger
Contains : SULPHURIC ACID

Hazard statements (CLP) : H314 - Causes severe skin burns and eye damage.
Precautionary statements (CLP) : P264 - Wash hands thoroughly after handling.
P280 - Wear protective clothing, eye protection, face protection, protective gloves.
P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing.
Rinse skin with water.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

2.3. Other hazards

Mixture does not contain substance (s) classified as PBT or vPvB in concentrations above 0,1%.

PL HYDRAZINE 1

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Contains no PBT and/or vPvB substances ≥ 0.1% assessed in accordance with REACH Annex XIII

The 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 substance(s) are 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 %

SECTION 3: Composition/information on ingredients

3.2. Mixtures

| Name | Product identifier | % | Classification according to Regulation (EC) No. 1272/2008 [CLP] |
|----------------|---|---------|---|
| SULPHURIC ACID | CAS-No.: 7664-93-9 EC-No.: 231-639-5 EC Index-No.: 016-020-00-8 REACH-no: 01-2119458838-20 | 30 – 50 | Skin Corr. 1A, H314 |

Full text of H- and EUH-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Call a physician immediately.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.

First-aid measures after skin contact : Rinse skin with water/shower. Take off immediately all contaminated clothing. Call a physician immediately.

First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.

First-aid measures after ingestion : Rinse mouth. Do not induce vomiting. Call a physician immediately.

Self protection of the first- aider : First-aiders should pay attention to their own protection and use the recommended personal protective equipment (see section 8).

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

Symptoms/effects after inhalation : None under normal conditions.

Symptoms/effects after skin contact : Burns.

Symptoms/effects after eye contact : Serious damage to eyes.

Symptoms/effects after ingestion : Burns.

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 : Water spray. Dry powder. Foam. Carbon dioxide.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard : No fire hazard.

Explosion hazard : No direct explosion hazard.

Hazardous decomposition products in case of fire : Toxic fumes may be released.

PL HYDRAZINE 1

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

5.3. Advice for firefighters

Firefighting instructions : Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material damage.

For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.

Emergency procedures : Ventilate spillage area. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapours/spray.

For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

Emergency procedures : Evacuate unnecessary personnel. Stop leak if safe to do so.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Absorb spilled material with sand or earth. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak without risks if possible.

Methods for cleaning up : Take up liquid spill into absorbent material.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Not expected to present a significant hazard under anticipated conditions of normal use.

Precautions for safe handling : Ensure good ventilation of the work station. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapours/spray. Wear personal protective equipment.

Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Keep in a cool, well-ventilated place away from heat.

Storage conditions : Store locked up.

Packaging materials : Always store product in container of same material as original container.

7.3. Specific end use(s)

No additional information available

PL HYDRAZINE 1

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

National occupational exposure and biological limit values

SULPHURIC ACID (7664-93-9)

United Kingdom - Occupational Exposure Limits

| | |
|----------------------|--|
| Local name | Sulphuric acid |
| WEL TWA (OEL TWA) | 0.05 mg/m ³ mist |
| WEL STEL (OEL STEL)* | 0.15 mg/m ³ |
| Remark | The mist is defined as the thoracic fraction |
| Regulatory reference | EH40/2005 (Fourth edition, 2020). HSE |

*STEL value is calculated based on the TWA limit

8.2. Exposure controls

Appropriate engineering controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

Personal protection equipment

Personal protective equipment:

Wear recommended personal protective equipment.

Personal protective equipment symbol(s):



Eye and face protection

Eye protection:

Safety glasses. ISO 16321-1

Skin protection

Skin and body protection:

Wear suitable protective clothing

Hand protection:

Protective gloves

| Hand protection | | | | | |
|------------------------------------|--|-------------------|----------------|-------------|------------|
| Type | Material | Permeation | Thickness (mm) | Penetration | Standard |
| Disposable gloves, Reusable gloves | Nitrile rubber (NBR), Butyl rubber, Polyvinylchloride (PVC), Chloroprene rubber (CR), Neoprene | 6 (> 480 minutes) | 0.5 | | EN ISO 374 |

Respiratory protection

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

Environmental exposure controls

Environmental exposure controls:

Avoid release to the environment.

PL HYDRAZINE 1

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|---|----------------------|
| Physical state | : Liquid |
| Colour | : Yellow. |
| Odour | : Irritating odour. |
| Odour threshold | : Not available |
| Melting point | : No data available. |
| Freezing point | : Not available |
| Boiling point | : Not available |
| Flammability | : Not applicable |
| Lower explosion limit | : Not available |
| Upper explosion limit | : Not available |
| Flash point | : Not available |
| Auto-ignition temperature | : No data available. |
| Decomposition temperature | : Not available |
| pH | : <1 |
| Viscosity, kinematic | : Not available |
| Solubility | : Not available |
| Partition coefficient n-octanol/water (Log Kow) | : Not available |
| Vapour pressure | : Not available |
| Vapour pressure at 50°C | : Not available |
| Density | : Not available |
| Relative density | : No data available. |
| Relative vapour density at 20°C | : No data available. |
| Particle characteristics | : Not applicable |

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

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 |

PL HYDRAZINE 1

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

SULPHURIC ACID (7664-93-9)

| | |
|-----------------------------------|---|
| LD50 oral rat | 2140 mg/kg |
| Skin corrosion/irritation | : Causes severe skin burns. pH: <1 |
| Serious eye damage/irritation | : Assumed to cause serious eye damage pH: <1 |
| Respiratory or skin sensitisation | : Not classified |
| Germ cell mutagenicity | : Not classified |
| Carcinogenicity | : Not classified |
| Reproductive toxicity | : Not classified |
| STOT-single exposure | : Not classified |
| STOT-repeated exposure | : Not classified |
| Aspiration hazard | : Not classified |

11.2. Information on other hazards

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

| | |
|---|---|
| Ecology - general | : Before neutralisation, the product may represent a danger to aquatic organisms. |
| Hazardous to the aquatic environment, short-term (acute) | : Not classified |
| Hazardous to the aquatic environment, long-term (chronic) | : Not classified |

12.2. Persistence and degradability

| PL HYDRAZINE 1 | |
|-------------------------------|------------------------|
| Persistence and degradability | Biodegradable. |
| SULPHURIC ACID (7664-93-9) | |
| Persistence and degradability | Not rapidly degradable |

12.3. Bioaccumulative potential

| PL HYDRAZINE 1 | |
|---------------------------|---------------------|
| Bioaccumulative potential | No bioaccumulation. |

12.4. Mobility in soil

| PL HYDRAZINE 1 | |
|----------------|-------------------|
| Ecology - soil | soluble in water. |

12.5. Results of PBT and vPvB assessment

| PL HYDRAZINE 1 | |
|--|--|
| Mixture does not contain substance (s) classified as PBT or vPvB in concentrations above 0,1%. | |

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

No additional information available

PL HYDRAZINE 1

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

SECTION 13: Disposal considerations

13.1. Waste treatment methods

| | |
|--|---|
| Regional waste regulation | : Disposal must be done according to official regulations. |
| Waste treatment methods | : Dispose of contents/container in accordance with licensed collector's sorting instructions. |
| Sewage disposal recommendations | : Disposal must be done according to official regulations. |
| Product/Packaging disposal recommendations | : Disposal must be done according to official regulations. |
| Additional information | : Do not re-use empty containers. |
| Ecological waste information | : The waste of the product should be considered as hazardous as the product itself, with the likelihood of impacting the environment in the same way. Consider the handling and disposal of the waste as defined by the product itself. |

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

| ADR | IMDG | IATA | ADN | RID |
|---|---|---|---|---|
| 14.1. UN number or ID number | | | | |
| UN 2796 | UN 2796 | UN 2796 | UN 2796 | UN 2796 |
| 14.2. UN proper shipping name | | | | |
| SULPHURIC ACID | SULPHURIC ACID | Sulphuric acid | SULPHURIC ACID | SULPHURIC ACID |
| Transport document description | | | | |
| UN 2796 SULPHURIC ACID, 8, II, (E) | UN 2796 SULPHURIC ACID, 8, II | UN 2796 Sulphuric acid, 8, II | UN 2796 SULPHURIC ACID, 8, II | UN 2796 SULPHURIC ACID, 8, II |
| 14.3. Transport hazard class(es) | | | | |
| 8 | 8 | 8 | 8 | 8 |
|  |  |  |  |  |
| 14.4. Packing group | | | | |
| II | II | II | II | II |
| 14.5. Environmental hazards | | | | |
| Dangerous for the environment: No | Dangerous for the environment: No Marine pollutant: No EmS-No. (Fire): F-A EmS-No. (Spillage): S-B | Dangerous for the environment: No | Dangerous for the environment: No | Dangerous for the environment: No |
| No supplementary information available | | | | |

14.6. Special precautions for user

Overland transport

| | |
|---|---------------|
| Classification code (ADR) | : C1 |
| Limited quantities (ADR) | : 1L |
| Excepted quantities (ADR) | : E2 |
| Packing instructions (ADR) | : P001, IBC02 |
| Mixed packing provisions (ADR) | : MP15 |
| Portable tank and bulk container instructions (ADR) | : T8 |
| Portable tank and bulk container special provisions (ADR) | : TP2 |
| Tank code (ADR) | : L4BN |
| Tank special provisions (ADR) | : TU42 |

PL HYDRAZINE 1

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

| | | |
|---|---|---|
| Vehicle for tank carriage | : | AT |
| Transport category (ADR) | : | 2 |
| Hazard identification number (Kemler No.) | : | 80 |
| Orange plates | : |  |
| Tunnel restriction code (ADR) | : | E |
| EAC code | : | 2R |

Transport by sea

| | | |
|------------------------------------|---|--|
| Limited quantities (IMDG) | : | 1 L |
| Excepted quantities (IMDG) | : | E2 |
| Packing instructions (IMDG) | : | P001 |
| IBC packing instructions (IMDG) | : | IBC02 |
| IBC special provisions (IMDG) | : | B20 |
| Tank instructions (IMDG) | : | T8 |
| Tank special provisions (IMDG) | : | TP2 |
| Stowage category (IMDG) | : | B |
| Segregation (IMDG) | : | SGG1, SG36, SG49 |
| Properties and observations (IMDG) | : | Colourless liquid, mixture not exceeding 1.405 relative density. Highly corrosive to most metals. Causes burns to skin, eyes and mucous membranes. |

Air transport

| | | |
|--|---|------|
| PCA Excepted quantities (IATA) | : | E2 |
| PCA Limited quantities (IATA) | : | Y840 |
| PCA limited quantity max net quantity (IATA) | : | 0.5L |
| PCA packing instructions (IATA) | : | 851 |
| PCA max net quantity (IATA) | : | 1L |
| CAO packing instructions (IATA) | : | 855 |
| CAO max net quantity (IATA) | : | 30L |
| ERG code (IATA) | : | 8L |

Inland waterway transport

| | | |
|-----------------------------------|---|--------|
| Classification code (ADN) | : | C1 |
| Limited quantities (ADN) | : | 1 L |
| Excepted quantities (ADN) | : | E2 |
| Carriage permitted (ADN) | : | T |
| Equipment required (ADN) | : | PP, EP |
| Number of blue cones/lights (ADN) | : | 0 |

Rail transport

| | | |
|---|---|-------------|
| Classification code (RID) | : | C1 |
| Limited quantities (RID) | : | 1L |
| Excepted quantities (RID) | : | E2 |
| Packing instructions (RID) | : | P001, IBC02 |
| Mixed packing provisions (RID) | : | MP15 |
| Portable tank and bulk container instructions (RID) | : | T8 |
| Portable tank and bulk container special provisions (RID) | : | TP2 |
| Tank codes for RID tanks (RID) | : | L4BN |
| Special provisions for RID tanks (RID) | : | TU42 |
| Transport category (RID) | : | 2 |
| Colis express (express parcels) (RID) | : | CE6 |
| Hazard identification number (RID) | : | 80 |

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

PL HYDRAZINE 1

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

SECTION 15: Regulatory information

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

EU-Regulations

REACH Annex XVII (Restriction List)

Contains no substance(s) listed on REACH Annex XVII (Restriction Conditions)

REACH Annex XIV (Authorisation List)

Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Contains no substance(s) listed on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

POP Regulation (Persistent Organic Pollutants)

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

Ozone Regulation (2024/590)

Not listed on the Ozone Depletion list (Regulation EU 2024/590)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 2024/590 on substances that deplete the ozone layer)

Council Regulation (EC) for the control of dual-use items

Contains no substance subject to the COUNCIL REGULATION (EC) for the control of dual-use items

Explosives Precursors Regulation (EU 2019/1148)

Contains substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

ANNEX I RESTRICTED EXPLOSIVES PRECURSORS

List of substances which are not to be made available to, or introduced, possessed or used by, members of the general public, whether on their own or in mixtures or substances that include those substances, unless the concentration is equal to or lower than the limit values set out in column 2, and for which suspicious transactions and significant disappearances and thefts are to be reported within 24 hours.

| Name | CAS-No. | Limit value | Upper limit value for licensing under Article 5(3) | Combined Nomenclature (CN) code for a separate chemically defined compound meeting the requirements of Note 1 to Chapter 28 or 29 of the CN, respectively | Combined Nomenclature code for mixture without constituents which would determine classification under another CN code |
|----------------|-----------|-------------|--|---|--|
| Sulphuric acid | 7664-93-9 | 15 % w/w | 40 % w/w | ex 2807 00 00 | ex 3824 99 96 |

Drug Precursors Regulation (EC 273/2004)

Contains 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)

| Name | CN designation | CAS-No. | CN code | Category, Subcategory | Threshold | Annex |
|----------------|----------------|-----------|------------|-----------------------|-----------|---------|
| Sulphuric acid | | 7664-93-9 | 2807 00 00 | Category 3 | | Annex I |

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

PL HYDRAZINE 1

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

SECTION 16: Other information

Abbreviations and acronyms:

| | |
|---------|---|
| ACGIH | American Conference of Governmental Industrial Hygienists |
| 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 |
| BLV | Biological limit value |
| BOD | Biochemical oxygen demand (BOD) |
| CAS-No. | Chemical Abstracts Service number |
| CLP | Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008 |
| COD | Chemical oxygen demand (COD) |
| CSA | Chemical safety assessment |
| DMEL | Derived Minimal Effect level |
| DNEL | Derived-No Effect Level |
| EC-No. | European Community number |
| EC50 | Median effective concentration |
| ED | Endocrine disruptor |
| EN | European Standard |
| EWC | European waste catalogue |
| IARC | International Agency for Research on Cancer |
| IATA | International Air Transport Association |
| IMDG | International Maritime Dangerous Goods |
| LC50 | Median lethal concentration |
| LD50 | Median lethal dose |
| LOAEL | Lowest Observed Adverse Effect Level |
| Log Kow | Partition coefficient n-octanol/water (Log Kow) |
| Log Pow | Partition coefficient n-octanol/water (Log Pow) |
| MAK | maximum workplace concentration |
| NOAEC | No-Observed Adverse Effect Concentration |
| NOAEL | No-Observed Adverse Effect Level |
| NOEC | No-Observed Effect Concentration |
| N.O.S. | Not Otherwise Specified |
| OECD | Organisation for Economic Co-operation and Development |
| OEL | Occupational Exposure Limit |
| OSHA | Occupational Safety Health Administration |
| PBT | Persistent Bioaccumulative Toxic |
| PNEC | Predicted No-Effect Concentration |
| PPE | Personal protection equipment |

PL HYDRAZINE 1

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

| Abbreviations and acronyms: | |
|------------------------------------|--|
| RID | Regulations concerning the International Carriage of Dangerous Goods by Rail |
| SDS | Safety Data Sheet |
| STP | Sewage treatment plant |
| TF | Technical function |
| ThOD | Theoretical oxygen demand (ThOD) |
| TLM | Median Tolerance Limit |
| TWA | Time Weighted Average |
| VOC | Volatile Organic Compounds |
| vPvB | Very Persistent and Very Bioaccumulative |
| UFI | Unique Formula Identifier |

| Full text of H- and EUH-statements: | |
|--|--|
| Skin Corr. 1A | Skin corrosion/irritation, Category 1, Sub-Category 1A |
| H314 | Causes severe skin burns and eye damage. |

The classification complies with : ATP 12

Safety Data Sheet (SDS), EU

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.