

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

1.1. Product identifier

Product form : Mixture
 Trade name : Hynat DW872

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

1.2.1. Relevant identified uses

Use of the substance/mixture : Product for water treatments

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

| | |
|-------------------------|---|
| DERYPOL, S.A HQ: | Manufacturing: |
| C/Plató, n 6, Entlo, 5 | C/Cal Gabatx, s/n |
| 08021 Barcelona (Spain) | 08520 Les Franqueses del Vallès (Spain) |
| Tel. +34 93 238 9090 | Tel. +34 93 8496188 |
| | regulatory@derypol.com |

1.4. Emergency telephone number

Emergency number : +34 93 849 6188
 9:00-13:00 h 15:00-17:00 h (GMT + 1)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP] Mixtures/Substances: SDS EU > 2015: According to Regulation (EU) 2015/830, 2020/878 (REACH Annex II)

Not classified

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

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

No labelling applicable

2.3. Other hazards

Other hazards which do not result in classification : Spills will produce extremely slippery surfaces in case of contact with water.

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 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

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Comments : Cationic pregelatinised starch (CAS 56780-58-6)

This mixture does not contain any substances to be mentioned according to the criteria of section 3.2 of REACH Annex II

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SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures general : Do not perform any action that poses a risk if proper training is not held. Use the personal protective equipment necessary in the circumstances prevailing in the place of intervention.
- First-aid measures after inhalation : In case of trouble go to the open air.
- First-aid measures after skin contact : Flush with plenty of water and soap.
- First-aid measures after eye contact : Rinse thoroughly with plenty of water, also under eyelids, at least for 15 minutes. Get medical assistance. It is necessary having a safety shower in the work area.
- First-aid measures after ingestion : Do not induce vomiting. Rinse mouth. Call a physician immediately.

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

- Symptoms/effects : No acute effects are expected, except for an allergic reaction to any of the individual product ingredients.
- Symptoms/effects after inhalation : None expected.
- Symptoms/effects after skin contact : None expected.
- Symptoms/effects after eye contact : None expected.
- Symptoms/effects after ingestion : Gastrointestinal discomfort. Repeated ingestion of the product is considered highly unlikely route of exposure if working in adequate sanitary and hygiene conditions.
- Symptoms/effects upon intravenous administration : Likely routes of exposure: skin and eye.

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

Treat symptomatically. Any ingredient in significant proportion according to the criteria laid down in Regulation 1272/2008 is mentioned in paragraph 3.2 of this Safety Data Sheet. Get medical attention urgently.

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Water. Water spray, dry powder, carbon dioxide (CO₂), foam.
- Unsuitable extinguishing media : None.

5.2. Special hazards arising from the substance or mixture

- Explosion hazard : Dust may form explosive mixture in air. This product is an ST-1 explosion class dust at normal humidity levels. EMI > 30 mJ (at normal humidity levels). P_{max}: 9.5 bar. K_{st} 195 bar m/s.
- Hazardous decomposition products in case of fire : Under fire conditions thermal decomposition may produce carbon oxides (CO_x).

5.3. Advice for firefighters

- Precautionary measures fire : Fight fire with normal precautions from a reasonable distance.
- Protection during firefighting : Use self-contained breathing apparatus and chemically protective clothing.
- Other information : In contact with water, the products forms slippery surfaces.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Do not step on the spill and avoid contact with water. The affected area, in contact with water, will become extremely slippery. Do not breathe dust. Avoid dust formation.
- 6.1.1. For non-emergency personnel**
- Protective equipment : Use personal protective equipment. Keep away from people without protection. Slipping hazard if spilled load. Avoid contact with eyes and skin. Do not breathe vapors or spray mist. Personal protective equipment, see section 8.
- Emergency procedures : Restrict access to area as appropriate until clean-up operations are complete. Use personal protective equipment recommended in Section 8 (Exposure Controls/Personal Protection). Stop or reduce any leaks if it is safe to do so. Ventilate spill area if possible. Ensure clean-up is conducted by trained personnel only. Do not touch spilled material. Have emergency equipment (for fires, spills, leaks, etc.) readily available.

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6.1.2. For emergency responders

Protective equipment : Wear recommended personal protective equipment.

6.2. Environmental precautions

Avoid the ground to be contaminated, natural water courses and wastewater drainage. If contamination occurs inform the corresponding authorities immediately.

6.3. Methods and material for containment and cleaning up

For containment : Stop leak without risks if possible.
Methods for cleaning up : Clean up with a shovel and then with a brush and dustpan, avoid any rest of the product to remain in the spill area. Finally flush with pressured water and check the cleaning operation efficiency, otherwise the affected area will become extremely slippery.

6.4. Reference to other sections

See Section 8 to have information related to most appropriate personal protection equipment.

See Section 13 to have information related to waste management.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Avoid dust formation. Use local exhaust if dusting occurs. We recommend handling the product in a well ventilated area. Ensure you have a safety shower and eye wash fountain available.
Handling temperature : 5 – 30 °C
Hygiene measures : Use normal personal hygiene and housekeeping measures when handling any chemical product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in cool, dry, ventilated places, away from the sun, heat and sources of ignition. Avoid temperatures below 0oC and above 40oC Keep the product in its original containers tightly closed and away from incompatible material. Avoid static discharges.
Incompatible products : As a general rule we recommend avoiding the contact with strong chemical reagents, such as acids, bases, reductors and oxidizers.
Storage temperature : 0 – 40 °C
Heat and ignition sources : Keep away from ignition sources.

7.3. Specific end use(s)

For all the expected uses of the product the indications given above are considered appropriate.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1. National occupational exposure and biological limit values

| Hynat DW872 | |
|--------------------------------------|----------------------|
| Spain - Occupational Exposure Limits | |
| VLA-ED (OEL TWA) [1] | 10 mg/m ³ |

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

No additional information available

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8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:

Use local exhaust systems if dusty atmospheres occur, otherwise general ventilation is sufficient.

8.2.2. Personal protection equipment

8.2.2.1. Eye and face protection

| Eye protection | | | |
|----------------|----------------------|-------------------|----------|
| Type | Field of application | Characteristics | Standard |
| Safety glasses | | With side shields | EN 166 |

8.2.2.2. Skin protection

Skin and body protection:

Use your standard work clothes. In case of long contact with the product and risk of splash of its dissolutions use full waterproof suit

Hand protection:

Use latex gloves, or natural rubber gloves

8.2.2.3. Respiratory protection

Respiratory protection:

Use a complete face filter mask (mouth, nose and eyes) with a filter for particles

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:

Avoid spills that contaminate the underground, surface water streams and sewer system.

Consumer exposure controls:

Wash your hands and anybody area that has resulted exposed to the product before drinking, eating, using the services and end of the work period.

Do not eat, drink or smoke during use.

Other information:

You should always have a safety shower and eyewash in the area where the product is handled. Be aware of your exposure to products used in your workplace and act responsibly to avoid contaminating other areas. Try to develop good health habits, check with your company responsible for help.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|-----------------------------|-------------------------|
| Physical state | : Solid |
| Colour | : Yellowish white. |
| Appearance | : Flaked solid. |
| Molecular mass | : Low molecular weight. |
| Odour | : characteristic. |
| Odour threshold | : Not available |
| Melting point | : Not available |
| Freezing point | : Not available |
| Boiling point | : Not available |
| Flammability | : Not available |
| Explosive limits | : Not applicable |
| Lower explosive limit (LEL) | : Not applicable |
| Upper explosive limit (UEL) | : Not applicable |
| Flash point | : 400 – 450 °C |
| Auto-ignition temperature | : Not self-igniting |

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| | |
|---|---|
| Decomposition temperature | : Not available |
| pH | : 7 – 9 (4% solution) |
| pH solution | : Not available |
| Viscosity, kinematic | : Not applicable |
| Viscosity, dynamic | : 300 – 1200 cP (4% solution) |
| Solubility | : Water soluble. Solution concentration will be limited by its own viscosity. |
| Partition coefficient n-octanol/water (Log Kow) | : Not available |
| Vapour pressure | : Not available |
| Vapour pressure at 50 °C | : Not available |
| Density | : ≈ 0.3 g/cm ³ |
| Relative density | : Not available |
| Relative vapour density at 20 °C | : Not applicable |
| Particle size | : Not available |
| Particle size distribution | : Not available |
| Particle shape | : Not available |
| Particle aspect ratio | : Not available |
| Particle aggregation state | : Not available |
| Particle agglomeration state | : Not available |
| Particle specific surface area | : Not available |
| Particle dustiness | : 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

The product has no hazardous reactivity beyond that specified in paragraph 10.5.

10.2. Chemical stability

Stable under normal handling and storage conditions.

10.3. Possibility of hazardous reactions

No dangerous reaction known.

10.4. Conditions to avoid

None for safety reasons. For keeping the original properties of the product follow the recommendations given in Section 7.

10.5. Incompatible materials

Strong oxidizers may cause exothermic reactions. Strong acids. Strong bases. As a general rule we recommend avoiding the contact with strong chemical reagents, such as acids, bases, reductors and oxidizers.

10.6. Hazardous decomposition products

Thermal decomposition products (in case of fire) are indicated in Section 5.

SECTION 11: Toxicological information

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

| | |
|-----------------------------|---|
| Acute toxicity (oral) | : No data available. |
| Acute toxicity (dermal) | : Not classified |
| Acute toxicity (inhalation) | : Not classified |
| Additional information | : The product is not toxic, however it is a non-food product and ingestion should be avoided. |

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|-----------------------|-----------------------------|
| LD50 oral rat | 6600 mg/kg (Published data) |
| LD50 dermal rat | Not available. |
| LC50 Inhalation - Rat | Not tested. |

| | |
|-----------------------------------|---|
| Skin corrosion/irritation | : Causes mild skin irritation. Exposure: 300 µg intermittently for 72 h. pH: 7 – 9 (4% solution) |
| Serious eye damage/irritation | : No data available. pH: 7 – 9 (4% solution) |
| Respiratory or skin sensitisation | : No data available. This product is not expected to be sensitizing. |
| Germ cell mutagenicity | : No data available. The product does not contain any components in a concentration equal to or greater than 0.1% that have been found to be mutagenic. |
| Carcinogenicity | : Classification A4 (Not classified as a human carcinogen) by ACGIH. Classified Group 3 (cannot be classified as carcinogenic to humans) by IARC. |
| Reproductive toxicity | : No information available. The product does not contain any components in a concentration equal to or greater than 0.1% that have been found to be toxic to reproductive function. |
| STOT-single exposure | : No information available |
| STOT-repeated exposure | : No information available |
| Aspiration hazard | : No aspiration hazard is expected in normal use. |

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

| | |
|--|---------------------|
| Adverse health effects caused by endocrine disrupting properties | : No data available |
|--|---------------------|

11.2.2. Other information

| | |
|---|---|
| Potential adverse human health effects and symptoms | : No symptoms expected if the product is properly handled, No effects whatsoever related to exposure to the product are known. Through our experience and according to the information available, the product is not harmful to health if handled correctly according to the recommendations given. |
| Other information | : The most likely routes of exposure are skin and/or eye contact. |

SECTION 12: Ecological information

12.1. Toxicity

| | |
|---|----------------------|
| Hazardous to the aquatic environment, short-term (acute) | : No data available. |
| Hazardous to the aquatic environment, long-term (chronic) | : No data available. |

| Hynat DW872 | |
|----------------------|--------------------|
| LC50 - Fish [1] | No data available. |
| EC50 - Crustacea [1] | No data available. |
| EC50 72h - Algae [1] | No data available. |

12.2. Persistence and degradability

| Hynat DW872 | |
|---------------------------------|--|
| Persistence and degradability | Readily biodegradable based on the degree of starch substitution (DS≤0.1). . Studies carried out in aquatic environment (ISO 14851 / OECD 301 F) and terrestrial environment, "Compost" (ISO 14855-1). |
| Biochemical oxygen demand (BOD) | ≈ 0.7 g O ₂ /g substance |
| Chemical oxygen demand (COD) | ≈ 1.1 g O ₂ /g substance |

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12.3. Bioaccumulative potential

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| | |
|---------------------------|---|
| Bioaccumulative potential | The product is not expected to bioaccumulate. |
|---------------------------|---|

12.4. Mobility in soil

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| | |
|----------------|---------------------------|
| Ecology - soil | No 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 : No data available

12.7. Other adverse effects

Other adverse effects : Do not allow product to enter ground water, surface water or sewers. Damage to the ecosystem due to pH changes. After neutralisation and dilution, no losses are expected.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : If this product must be disposed as a waste the final user must do it accordingly with the European, national and local regulations. Use only authorised companies. Dispose of contents/container in accordance with licensed collector's sorting instructions. Furthermore, the user must consider the possible national/local regulations.

Additional information : Keep the same recommendations provided in Sections 7 and 8 of this MSDS.

SECTION 14: Transport information

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

14.1. UN number or ID number

| | |
|---------------|------------------|
| UN-No. (ADR) | : Not applicable |
| UN-No. (IMDG) | : Not applicable |
| UN-No. (IATA) | : Not applicable |
| UN-No. (ADN) | : Not applicable |
| UN-No. (RID) | : Not applicable |

14.2. UN proper shipping name

| | |
|-----------------------------|------------------|
| Proper Shipping Name (ADR) | : Not applicable |
| Proper Shipping Name (IMDG) | : Not applicable |
| Proper Shipping Name (IATA) | : Not applicable |
| Proper Shipping Name (ADN) | : Not applicable |
| Proper Shipping Name (RID) | : Not applicable |

14.3. Transport hazard class(es)

ADR
Transport hazard class(es) (ADR) : Not applicable

IMDG
Transport hazard class(es) (IMDG) : Not applicable

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IATA

Transport hazard class(es) (IATA) : Not applicable

ADN

Transport hazard class(es) (ADN) : Not applicable

RID

Transport hazard class(es) (RID) : Not applicable

14.4. Packing group

Packing group (ADR) : Not applicable

Packing group (IMDG) : Not applicable

Packing group (IATA) : Not applicable

Packing group (ADN) : Not applicable

Packing group (RID) : Not applicable

14.5. Environmental hazards

Dangerous for the environment : No

Marine pollutant : No

Other information : No supplementary information available

14.6. Special precautions for user

Overland transport

Not applicable

Transport by sea

Not applicable

Air transport

Not applicable

Inland waterway transport

Not applicable

Rail 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

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

Contains no substance subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

Contains no substance subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

15.1.2. National regulations

Germany

Water hazard class (WGK) : WGK 2, Significantly hazardous to water (Classification according to AwSV, Annex 1)

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

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Netherlands

| | |
|---|-------------------------------------|
| SZW-lijst van kankerverwekkende stoffen | : None of the components are listed |
| SZW-lijst van mutagene stoffen | : None of the components are listed |
| NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding | : None of the components are listed |
| NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid | : None of the components are listed |
| NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling | : None of the components are listed |

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Indication of changes

| Section | Changed item | Change | Comments |
|---------|---|----------|----------|
| | Revision date | Modified | |
| | Supersedes | Modified | |
| | Issue date | Modified | |
| | Carcinogenicity - comment | Modified | |
| | Germ cell mutagenicity - comment | Modified | |
| | Reproductive toxicity - comment | Modified | |
| | Respiratory or skin sensitisation - comment | Modified | |
| | Skin corrosion/irritation - comment | Modified | |
| | Hazardous to the aquatic environment, short-term (acute) - comment | Added | |
| | Hazardous to the aquatic environment, long-term (chronic) - comment | Added | |
| | Adverse health effects caused by endocrine disrupting properties | Added | |
| 2.1 | Classification according to Regulation (EC) No. 1272/2008 [CLP] | Removed | |
| 3 | Composition/information on ingredients | Modified | |
| 5.2 | Explosion hazard | Added | |
| 6.1 | General measures | Modified | |
| 9.1 | Appearance | Modified | |
| 9.1 | Odour | Modified | |
| 9.1 | Colour | Modified | |
| 9.1 | Flash point | Added | |
| 10.5 | Incompatible materials | Modified | |
| 11.1 | LD50 oral rat | Modified | |
| 11.1 | ATE CLP (oral) | Added | |
| 12.2 | Persistence and degradability | Modified | |
| 12.2 | Biochemical oxygen demand (BOD) | Added | |
| 12.2 | Chemical oxygen demand (COD) | Added | |

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| Indication of changes | | | |
|-----------------------|-----------------------|----------|----------|
| Section | Changed item | Change | Comments |
| 12.6 | Other adverse effects | Modified | |

Other information : The latest version of the MSDS of this product can be obtained through the link <https://www.derypol.com/en/technical-documentation/>.

Safety Data Sheet applicable for regions : DE;DK;ES;FI;FR;IT;NL;PL;PT;GB;RU;SE

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.