

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

1.1. Product identifier

Product form : Solution
Product name : Van Gogh pH+
Product code : 300.580.000

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

1.2.1. Relevant identified uses

No additional information available

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Van Goghs Complete fertilizers
P.O. Box Postbus 90204
1006 BE Amsterdam - The Netherlands
T +31 20 8208177
info@tulip-amsterdam.com - www.vangoghs.com

1.4. Emergency telephone number

No additional information available

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

| | |
|---|------|
| Corrosive to metals, Category 1 | H290 |
| Acute toxicity (oral), Category 4 | H302 |
| Skin corrosion/irritation, Category 1 | H314 |
| Serious eye damage/eye irritation, Category 1 | H318 |
| Full text of H statements : see section 16 | |

Adverse physicochemical, human health and environmental effects

May be corrosive to metals. Harmful if swallowed. Causes severe skin burns and eye damage. Causes serious eye damage.

2.2. Label elements

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

Hazard pictograms (CLP) :



GHS05

GHS07

CLP Signal word :

Danger

Contains :

potassium hydroxide

Hazard statements (CLP) :

H290 - May be corrosive to metals.

H302 - Harmful if swallowed.

H314 - Causes severe skin burns and eye damage.

Precautionary statements (CLP) :

P234 - Keep only in original packaging.

P260 - Do not breathe vapours.

P280 - Wear Protective gloves, Protective clothing, Eye protection.

P301+P312 - IF SWALLOWED: Call a POISON CENTER, a doctor if you feel unwell.

P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove

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contact lenses, if present and easy to do. Continue rinsing.
P310 - Immediately call a POISON CENTER, a doctor.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

| Name | Product identifier | % | Classification according to Regulation (EC) No. 1272/2008 [CLP] |
|---------------------|---|-------------|--|
| potassium hydroxide | CAS-No.: 1310-58-3 EC-No.: 215-181-3 EC Index-No.: 019-002-00-8 REACH-no: 01-2119487136-33 | 17.5 – 22.5 | Acute Tox. 4 (Oral), H302 Skin Corr. 1A, H314 Eye Dam. 1, H318 |

Specific concentration limits

| Name | Product identifier | Specific concentration limits |
|---------------------|---|---|
| potassium hydroxide | CAS-No.: 1310-58-3 EC-No.: 215-181-3 EC Index-No.: 019-002-00-8 REACH-no: 01-2119487136-33 | (0.5 ≤C < 2) Eye Irrit. 2, H319 (0.5 ≤C < 2) Skin Irrit. 2, H315 (2 ≤C < 5) Skin Corr. 1B, H314 (5 ≤C < 100) Skin Corr. 1A, H314 |

Full text of H-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. |

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

| | |
|-------------------------------------|---------------------------|
| 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.

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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Special hazards arising from the substance or mixture

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

5.3. Advice for firefighters

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

6.1.1. For non-emergency personnel

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

6.1.2. 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".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

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

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

Storage conditions : Store in corrosive resistant container with a resistant inner liner. Keep only in original container. Store locked up. Store in a well-ventilated place. Keep cool.
Incompatible materials : Metals.

7.3. Specific end use(s)

No additional information available

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1. National occupational exposure and biological limit values

| potassium hydroxide (1310-58-3) | |
|--|---|
| Belgium - Occupational Exposure Limits | |
| OEL STEL | 2 mg/m ³ (La mention "M" indique que lors d'une exposition supérieure à la valeur limite, des irritations apparaissent ou un danger d'intoxication aiguë existe. Le procédé de travail doit être conçu de telle façon que l'exposition ne dépasse jamais la valeur limite. Lors des mesurages, la période d'échantillonnage doit être aussi courte que possible afin de pouvoir effectuer des mesurages fiables. Le résultat des mesurages est calculé en fonction de la période d'échantillonnage.) |
| United Kingdom - Occupational Exposure Limits | |
| WEL STEL (OEL STEL) | 2 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

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:

Ensure good ventilation of the work station. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

8.2.2. Personal protection equipment

Personal protective equipment symbol(s):



8.2.2.1. Eye and face protection

Eye protection:

Safety glasses

| Eye protection | | | |
|----------------|---|-----------------|----------|
| Type | Field of application | Characteristics | Standard |
| | If there is a risk of liquid being splashed : | | EN 166 |

8.2.2.2. Skin protection

Skin and body protection:

Wear suitable protective clothing

Hand protection:

Protective gloves

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| Hand protection | | | | | |
|-----------------|----------------------|-------------------|----------------|-------------|------------|
| Type | Material | Permeation | Thickness (mm) | Penetration | Standard |
| | Nitrile rubber (NBR) | 6 (> 480 minutes) | | | EN ISO 374 |

8.2.2.3. Respiratory protection

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|---|---------------------|
| Physical state | : Liquid |
| Appearance | : Clear liquid. |
| Colour | : Colourless. |
| Odour | : odourless. |
| Odour threshold | : No data available |
| pH | : 14 |
| Relative evaporation rate (butylacetate=1) | : No data available |
| Melting point | : Not applicable |
| Freezing point | : No data available |
| Boiling point | : No data available |
| Flash point | : No data available |
| Auto-ignition temperature | : No data available |
| Decomposition temperature | : No data available |
| Flammability (solid, gas) | : Not applicable |
| Vapour pressure | : No data available |
| Relative vapour density at 20 °C | : No data available |
| Relative density | : No data available |
| Density | : 1.2 kg/l |
| Solubility | : No data available |
| Partition coefficient n-octanol/water (Log Pow) | : No data available |
| Viscosity, kinematic | : No data available |
| Viscosity, dynamic | : No data available |
| Explosive properties | : Not explosive. |
| Oxidising properties | : Not oxidising. |
| Explosive limits | : No data available |

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.

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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

metals.

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 toxicological effects

Acute toxicity (oral) : Harmful if swallowed.
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

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| | |
|----------------|-------------------------|
| ATE CLP (oral) | 1065.6 mg/kg bodyweight |
|----------------|-------------------------|

potassium hydroxide (1310-58-3)

| | |
|---------------|--|
| LD50 oral rat | 333 mg/kg (Equivalent or similar to OECD 425, Rat, Male, Experimental value, Oral) |
|---------------|--|

Skin corrosion/irritation : Causes severe skin burns.
pH: 14
Serious eye damage/irritation : Causes serious eye damage.
pH: 14
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

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

potassium hydroxide (1310-58-3)

| | |
|-----------------|-----------------|
| LC50 - Fish [1] | 100 – 1000 mg/l |
|-----------------|-----------------|

12.2. Persistence and degradability

potassium hydroxide (1310-58-3)

| | |
|---------------------------------|-----------------------------------|
| Persistence and degradability | Biodegradability: not applicable. |
| Biochemical oxygen demand (BOD) | Not applicable |

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potassium hydroxide (1310-58-3)

| | |
|------------------------------|----------------|
| Chemical oxygen demand (COD) | Not applicable |
| ThOD | Not applicable |
| BOD (% of ThOD) | Not applicable |

12.3. Bioaccumulative potential

potassium hydroxide (1310-58-3)

| | |
|---------------------------|----------------------------------|
| Bioaccumulative potential | Bioaccumulation: not applicable. |
|---------------------------|----------------------------------|

12.4. Mobility in soil

potassium hydroxide (1310-58-3)

| | |
|----------------|-------------------|
| Ecology - soil | Soluble in water. |
|----------------|-------------------|

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14: Transport information

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

14.1. UN number

| | |
|---------------|-----------|
| UN-No. (ADR) | : UN 1814 |
| UN-No. (IMDG) | : UN 1814 |
| UN-No. (IATA) | : UN 1814 |
| UN-No. (ADN) | : UN 1814 |
| UN-No. (RID) | : UN 1814 |

14.2. UN proper shipping name

| | |
|---------------------------------------|--|
| Proper Shipping Name (ADR) | : POTASSIUM HYDROXIDE SOLUTION |
| Proper Shipping Name (IMDG) | : POTASSIUM HYDROXIDE SOLUTION |
| Proper Shipping Name (IATA) | : Potassium hydroxide solution |
| Proper Shipping Name (ADN) | : POTASSIUM HYDROXIDE SOLUTION |
| Proper Shipping Name (RID) | : POTASSIUM HYDROXIDE SOLUTION |
| Transport document description (ADR) | : UN 1814 POTASSIUM HYDROXIDE SOLUTION, 8, II, (E) |
| Transport document description (IMDG) | : UN 1814 POTASSIUM HYDROXIDE SOLUTION, 8, II |
| Transport document description (IATA) | : UN 1814 Potassium hydroxide solution, 8, II |
| Transport document description (ADN) | : UN 1814 POTASSIUM HYDROXIDE SOLUTION, 8, II |
| Transport document description (RID) | : UN 1814 POTASSIUM HYDROXIDE SOLUTION, 8, II |

14.3. Transport hazard class(es)

ADR

| | |
|----------------------------------|-----|
| Transport hazard class(es) (ADR) | : 8 |
| Danger labels (ADR) | : 8 |

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IMDG

Transport hazard class(es) (IMDG) : 8
Danger labels (IMDG) : 8



IATA

Transport hazard class(es) (IATA) : 8
Danger labels (IATA) : 8



ADN

Transport hazard class(es) (ADN) : 8
Danger labels (ADN) : 8



RID

Transport hazard class(es) (RID) : 8
Danger labels (RID) : 8



14.4. Packing group

Packing group (ADR) : II
Packing group (IMDG) : II
Packing group (IATA) : II
Packing group (ADN) : II
Packing group (RID) : II

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

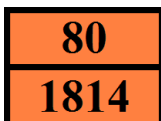
Classification code (ADR) : C5
Limited quantities (ADR) : 1I

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| | |
|---|---------------|
| Excepted quantities (ADR) | : E2 |
| Packing instructions (ADR) | : P001, IBC02 |
| Mixed packing provisions (ADR) | : MP15 |
| Portable tank and bulk container instructions (ADR) | : T7 |
| Portable tank and bulk container special provisions (ADR) | : TP2 |
| Tank code (ADR) | : L4BN |
| Tank special provisions (ADR) | : TU42 |
| 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

| | |
|------------------------------------|--|
| Packing instructions (IMDG) | : P001 |
| IBC packing instructions (IMDG) | : IBC02 |
| Tank instructions (IMDG) | : T7 |
| Tank special provisions (IMDG) | : TP2 |
| EmS-No. (Fire) | : F-A |
| EmS-No. (Spillage) | : S-B |
| Stowage category (IMDG) | : A |
| Segregation (IMDG) | : SG35 |
| Properties and observations (IMDG) | : Colourless liquid. Reacts with ammonium salts, evolving ammonia gas. Reacts with ammonium salts, evolving ammonia gas. Causes burns to skin, eyes and mucous membranes. Reacts violently with acids. |

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 |
| Special provisions (IATA) | : A3, A803 |
| ERG code (IATA) | : 8L |

Inland waterway transport

| | |
|-----------------------------------|----------|
| Classification code (ADN) | : C5 |
| 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) | : C5 |
| 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) | : T7 |
| 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 |

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Colis express (express parcels) (RID) : CE6
Hazard identification number (RID) : 80

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

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

Van Gogh pH+ is not on the REACH Candidate List

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 1, Slightly hazardous to water (Classification according to AwSV, Annex 1)

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

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 : None of the components are listed

giftige stoffen – Borstvoeding

NIET-limitatieve lijst van voor de voortplanting : None of the components are listed

giftige stoffen – Vruchtbaarheid

NIET-limitatieve lijst van voor de voortplanting : None of the components are listed

giftige stoffen – Ontwikkeling

Denmark

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

Switzerland

Storage class (LK) : LK 8 - Corrosive materials

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

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 |
| CLP | CLP = Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008 |
| EC50 | Median effective concentration |
| LC50 | Median lethal concentration |
| LD50 | Median lethal dose |
| OECD | Organisation for Economic Co-operation and Development |
| REACH | REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006 |
| RID | Regulations concerning the International Carriage of Dangerous Goods by Rail |

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Abbreviations and acronyms

| | |
|-----|-------------------------|
| SDS | SDS = Safety Data Sheet |
|-----|-------------------------|

| | |
|-------------------|---|
| Data sources | : ECHA Website: Information on Registered Substances Handbook of Chemistry and Physics CRC Press Inc Information suppliers BIG-database. |
| Other information | : DISCLAIMER OF LIABILITY The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable. |

Full text of H- and EUH-statements

| | |
|---------------------|--|
| Acute Tox. 4 (Oral) | Acute toxicity (oral), Category 4 |
| Eye Dam. 1 | Serious eye damage/eye irritation, Category 1 |
| Eye Irrit. 2 | Serious eye damage/eye irritation, Category 2 |
| Skin Corr. 1A | Skin corrosion/irritation, Category 1, Sub-Category 1A |
| Skin Corr. 1B | Skin corrosion/irritation, Category 1, Sub-Category 1B |
| Skin Irrit. 2 | Skin corrosion/irritation, Category 2 |
| H290 | May be corrosive to metals. |
| H302 | Harmful if swallowed. |
| H314 | Causes severe skin burns and eye damage. |
| H315 | Causes skin irritation. |
| H318 | Causes serious eye damage. |
| H319 | Causes serious eye irritation. |

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.