

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

1.1 Product identifier

Product name : PH Up Growth & Bloom
 EC number : 215-181-3
 CAS number : 1310-58-3
 Product code : Php
 Product type : Liquid pH corrector
 Other means of identification : Potassium hydroxide 50%

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

Identified uses : For use in agriculture and horticulture
 Uses advised against : Other non-specified industry.
 Due to the lack of related experience or information, the supplier cannot approve such use.

1.3 Details of the supplier of the safety data sheet

Name : Ferro
 visiting address : De Heinen 20
 Postal code and city : 5371 MJ Ravenstein
 mailing address : PO Box 12
 Postal code and city : 5373 ZG Herpen
 Country : Netherlands
 Telephone number : +31 486 416959
 Fax no. : +31 486 416962
 E-Mail-Adresse : info@ferro.nu
 Website : www.ferro.nu

1.4 Emergency telephone number

Name : National Chemical Emergency Centre
 Telephone number : +44 (0) 1865 407333
 Hours of operation : 24 h / 24 h

2 Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

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

Classification : Met. Corr. 1, H290
 Acute Tox. 4, H302
 Skin Corr. 1A, H314

Classification according to Directive 67/548/EEC [DSD]

Classification : The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

See Section 16 for the full tekst of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms

2.2 Label elements

Hazard pictograms :



Signal wort : Danger

Hazard statements : H290 May be corrosive to metals.
 H318 Causes serious eye damage.
 H314 Causes severe skin burns and eye damage.
 H302 Harmful if swallowed.

Precautionary statements

Prevention : P260 Do not breathe dust / fume/gas/mist/vapours/spray.
 P270 Do not eat, drink or smoke when using this product.
 P280 Wear protective gloves / protective clothing/eye protection/face protection.
 P273 Avoid release to the environment.

Response : P390 Absorb spillage to prevent material damage.
 P310 Immediately call a POISON CENTER or doctor / physician.
 P303 IF ON SKIN (or hair):
 P361 Remove / Take off immediately all contaminated clothing.
 P353 Rinse skin with water / shower.
 P301 + P330 + P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
 P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
 P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

EU Regulation (EC) No. 1907/2006 (REACH) Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : One or more of the following entries are applicable; 3, 58 and 65.

Special packaging requirements

Tactile warning of danger : Not applicable

2.3 Other hazards

Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII : Not applicable
 Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII : Not applicable
 Other hazards which do not result in classification : None.

3 Composition/information on ingredients

Substance/mixture : Mixture

Product / ingredient name : Potassium hydroxide 50%

Identifiers :

EC: : 215-181-3

CAS: : 1310-58-3

% : >= 50 - < 65

Classification :

Regulation (EC) No. 1272/2008 [CLP] : Acute Tox. 4, H302(oraal)
 Skin Corr. 1A, H314
 Eye Dam. 1, H318

Type : [1]

Type [1] Substance classified with a physical, health or environmental hazard [2] Substance with a workplace exposure limit [3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII [4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

[5] Substance of equivalent concern

See Section 16 for the full tekst of the H statements declared above.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

4 First aid measures

4.1 Description of first aid measures

- Eye contact : Immediately flush eyes with plenty of water for at least 15 minutes, keeping eyelids open. Get medical attention immediately.
- Inhalation : Avoid inhalation of vapor, spray or mist. If inhaled, remove to fresh air. Get medical attention immediately. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus.
- Skin contact : In case of contact, immediately flush skin with plenty of water for at least 15 minutes, wash with water and soap while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.
- Ingestion : Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Get medical attention if you feel unwell.
- Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

- Eye contact : Causes serious eye damage.
- Inhalation : Vapor is strongly irritating to the eyes and respiratory system. Can irritate eyes, nose, mouth and throat. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
- Skin contact : Causes severe burns.
- Ingestion : Harmful if swallowed. May cause burns to mouth, throat and stomach.

Over-exposure signs/symptoms

- Eye contact : Adverse symptoms may include the following:
pain
watering
redness

- Inhalation : Adverse symptoms may include the following: respiratory tract irritation coughing Serious effects may be delayed following exposure.
- Ingestion : Adverse symptoms may include the following:
stomach pains
Irritating to mouth, throat and stomach.
May cause burns to mouth, throat and stomach.

4.3 Indication of any immediate medical attention and special treatment needed

- Notes to physician : Treat symptomatically. Immediately contact a specialist for treatment of poisoning if large quantities have been ingested or inhaled.
- Specific treatments : No specific treatment.

5 Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

5.2 Special hazards arising from the substance or mixture

- Hazardous thermal decomposition products : Decomposition products may include the following materials:
metal oxide/oxides
Avoid breathing dusts, vapors or fumes from burning materials.
In case of inhalation of decomposition products in a fire, symptoms may be delayed.

5.3 Advice for firefighters

- Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

6 Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions

- Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and materials for containment and cleaning up

- Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Dispose of via a licensed waste disposal contractor. It may lead to a fire risk when it dries out. Do not absorb in sawdust or other combustible material.

6.4 Reference to other sections

See Section 1 for emergency contact information. See Section 8 for information on appropriate personal protective equipment. See Section 13 for additional waste treatment information.

7 Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

- | | | |
|--|---|---|
| Protective measures | : | Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Keep away from alkalis. Empty containers retain product residue and can be hazardous. Do not reuse container. Spillages should be cleaned up promptly to avoid damage to surrounding materials. |
| Advice on general occupational hygiene | : | Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures. |

7.2 Conditions for safe storage, including any incompatibilities

- | | | |
|-----------------|---|--|
| Recommendations | : | Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Store in corrosive resistant container with a resistant inner liner. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. Bund storage facilities to prevent soil and water pollution in the event of spillage. |
|-----------------|---|--|

7.3 Specific end use(s)

- | | | |
|--------------------------------------|---|----------------|
| Industrial sector specific solutions | : | Not available. |
|--------------------------------------|---|----------------|

8 Exposure controls/personal protection

The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

8.1 Control parameters

Exposure Limits for this product are not known.

- | | | |
|--|---|-------------------------|
| <u>Occupational exposure limits</u> | : | |
| Product / ingredient name | : | Potassium hydroxide 50% |

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

PNEC's : No PNECs available.

8.2 Exposure controls

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Individual protection measures

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. Recommended: face shield CEN: EN136

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. For general applications, we recommend gloves with a thickness typically greater than 0.35 mm. It should be emphasised that glove thickness is not necessarily a good predictor of glove resistance to a specific chemical, as the permeation efficiency of the glove will be dependent on the exact composition of the glove material. 4 - 8 hours (breakthrough time): PVC, neoprene, butyl rubber, natural rubber (latex)

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : In case of inadequate ventilation wear respiratory protection. Recommended: inorganic gases/vapors filter (Type B)

9 Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state : liquid
 Odor : none
 pH : 14 [Conc. (% w/w): 56 g/l]
 Melting point/freezing point : 2 °C
 Initial boiling point and boiling range : 139 °C
 Flash point : Not determined
 Flash point : Not determined
 Flammability (solid, gas) : Non-flammable.

Upper/lower flammability or explosive limits	:	Lower: Not determined Upper: Not determined
Relative density	:	Not determined
Bulk density	:	Not determined
Density	:	1,490 g cm ³
Solubility(ies)	:	Miscible in water.
Partition coefficient: n-octanol/water	:	Not determined
Auto-ignition temperature	:	Not determined
Viscosity	:	Dynamic: Not determined Kinematic: Not determined
Explosive properties	:	None.
Oxidizing properties	:	None.

9.2 Other Information

10 Stability and reactivity

10.1 Reactivity

May be corrosive to metals. Expert judgment

10.2 Chemical stability

The product is stable.

10.3 Possibility of hazardous reactions

Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid

Avoid contamination by any source including metals, dust and organic materials.

10.5 Incompatible materials

Reactive or incompatible with the following materials: acids

10.6 Hazardous decomposition products

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

11 Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Conclusion/Summary : Harmful if swallowed.

Irritation/Corrosion

Conclusion/Summary :
 Skin : Corrosive to skin on contact.
 Eyes : Causes serious eye damage.
 Respiratory : May be irritating to the respiratory system.

Sensitization

Conclusion/Summary :
 Skin : No data available for this end-point, hence this classification is not considered to be applicable.
 Respiratory : No data available for this end-point, hence this classification is not considered to be applicable.

Mutagenicity

Conclusion/Summary : No known significant effects or critical hazards.

Carcinogenicity

Conclusion/Summary : No known significant effects or critical hazards.

Reproductive toxicity

Conclusion/Summary : No known significant effects or critical hazards.

Teratogenicity

Conclusion/Summary : No known significant effects or critical hazards.

Information on the likely routes of exposure : No known significant effects or critical hazards.

Potential acute health effects

Inhalation : Vapor may be irritating to eyes and respiratory system.

Ingestion : Harmful if swallowed. May cause burns to mouth, throat and stomach.

Skin contact : Causes severe burns.

Eye contact : Causes serious eye damage.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation : No specific data.

Ingestion : Adverse symptoms may include the following: stomach pains
Irritating to mouth, throat and stomach. May cause burns to mouth, throat and stomach.

Skin contact : Adverse symptoms may include the following: pain or irritation
blistering may occur

Eye contact : Adverse symptoms may include the following: pain watering
redness

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : No known significant effects or critical hazards.

Potential delayed effects : Significante effecten of kritische gevaren zijn niet bekend.

Long term exposure

Potential immediate effects : No known significant effects or critical hazards.

Potential delayed effects : No known significant effects or critical hazards.

Potential chronic health effects

Conclusion/Summary : No known significant effects or critical hazards.

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

12 Ecological information

12.1 Toxicity

Conclusion/Summary : No known significant effects or critical hazards.

12.2 Persistence and degradability

Conclusion/Summary : No known significant effects or critical hazards.

12.3 Bioaccumulative potential

Conclusion/Summary : No known significant effects or critical hazards.

12.4 Mobility in soil

Soil/water partition coefficient (KOC) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

PBT : Not available.

vPvB : Not available.

12.6 Other adverse effects

13 Disposal considerations


The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods Product


Hazardous waste	:	The classification of the product may meet the criteria for a hazardous waste.
Packaging	:	
Methods of disposal	:	The generation of waste should be avoided or minimized wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible
Special precautions	:	This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

14 Transport information


Regulation: ADR/RID

14.1 UN-Nummer	:	1814
14.2 UN proper shipping name	:	Potassium hydroxide 50%
14.3 Transport hazard class(es)	:	
Hazard identification number	:	80
Tunnel code	:	(E)


Regulation: ADN

14.1 UN number	:	1814
14.2 UN proper shipping name	:	Potassium hydroxide 50%
14.3 Transport hazard class(es)	:	
14.6 Additional information	:	Hazard Code: N3

Regulation: IMDG

14.1 UN number	:	1814
14.2 UN proper shipping name	:	Potassium hydroxide 50%
14.3 Transport hazard class(es)	:	
Special precautions for user	:	SG18
Emergency schedules (EmS)	:	F-A, S-B

Regulation: IATA

14.1 UN number	:	1814
14.2 UN proper shipping name	:	Potassium hydroxide 50%
14.3 Transport hazard class(es)	:	
Marine pollutant	:	No

Special precautions for user : Transport within user's premises: Ensure that persons transporting the product know what to do in the event of an accident or spillage.

15 Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH) Annex XIV - List of substances subject to authorization Substances of very high concern : Not applicable

Other EU regulations :

Europe inventory : All components are listed or exempted.

Seveso II Directive : This product is not controlled under the Seveso II Directive.

National regulations :

Remarks : To our knowledge no other country or state specific regulations are applicable.

15.2 chemical Safety Assessment

Complete.

16 Other information

Abbreviations and acronyms

ATE = Acute Toxicity Estimate CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008] DNEL = Derived No Effect Level DMEL = Derived Minimal Effect Level EUH statement = CLP-specific Hazard statement PNEC = Predicted No Effect Concentration RRN = REACH Registration Number PBT = Persistent, Bioaccumulative and Toxic vPvB = Very Persistent and Very Bioaccumulative bw = Body weight

Key literature references and sources for data

EU REACH IUCLID5 CSR.

National Institute for Occupational Safety and Health, U.S. Dept. of Health, Education, and Welfare, Reports and Memoranda Registry of Toxic Effects of Chemical Substances.

IHS, 4777 Levy Street, St Laurent, Quebec HAR 2P9, Canada. Regulation (EC) No 1272/2008 Annex VI.

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

TABEL : With. Corr. 1, H290
Acute Tox. 4, H302
Skin Corr. 1A, H314

Justification : Expert
Calculation method
Calculation method

Full text of abbreviated H statements

H290 May be corrosive to metals.
H318 Causes serious eye damage.
H314 Causes severe skin burns and eye damage.
H302 Harmful if swallowed.

Date of issue/ Date of revision

20-02-2017

Version

02-2017

Prepared by

Ferro

Notice to reader



PH Up Growth & Bloom

Material Safety Data Sheet

According to Regulation (EC) No 453/2010

Version: 02-2017

Date of printing: 4-2-2019

Date of previous issue:

The information in this safety data sheet is most correct and complete to our present knowledge and is given in good faith but without warranty. It remains the responsibility of the user to make sure that the information is appropriate and complete for his specific use of the product. Ferro accepts no liability for damage or loss resulting from the use of this information.