





Material Safety Data Sheet (MSDS)


Hesi pH Plus



Date of issue: 02-09-2021
In accordance with Commission Regulation (EU) No 453/2010


1. Identification of the substance/mixture and of the company/undertaking:	
1.1 Product identifier: Product name:	Hesi pH Plus
Catalogue number:	HE51
1.2 Identification of the product:	pH corrector that increases the pH value in liquid nutrient solutions for plants. Only for use as a pH corrector.
1.3 Identification of data sheet supplier:	Hesi Plantenvoeding B.V. Klarenanstelerweg 11 6468 EP Kerkrade The Netherlands Tel. 0031 (0) 45 569 04 20 Fax 0031 - (0) 45 569 04 21 E-mail: info@hesi.nl Website: www.hesi.nl
Contact: Responsible for MSDS:	Mrs. Siglinde Winkler, e-mail: research@hesi.nl
1.4 Emergency phone number:	In case of life threatening emergencies while using any of our products, immediately dial the local alarm number. Europe: 112 North America: 911 Australia: 000

2. Hazard identification:	
<p>2.1 Classification of the substance or mixture: According to Regulation (EC) No 1272/2008 [CLP]:</p>	<div style="display: flex; align-items: center;">  <div style="margin-left: 10px;">GHS05 Corrosion</div> </div> <p>Skin Corrosion 1A</p> <p>H314: Causes severe skin burns and eye damage.</p> <div style="display: flex; align-items: center;">  <div style="margin-left: 10px;">GHS07</div> </div> <p>Acute Toxicity 4</p> <p>H302: Harmful if swallowed.</p>
<p>2.2 Label elements according to Regulation (EC) No 1272/2008 [CLP]: Hazard pictograms:</p> <p>Signal word:</p> <p>Hazard-determining components of labelling:</p> <p>Hazard statements:</p> <p>Precautionary statements:</p>	<div style="display: flex; align-items: center;">  <div style="margin-left: 10px;">GHS05</div> <div style="margin-left: 20px;">  <div style="margin-left: 10px;">GHS07</div> </div> </div> <p>Danger</p> <p>Potassium hydroxide</p> <p>H302: Harmful if swallowed. H314: Causes severe skin burns and eye damage.</p> <p>P260: Do not breathe dust / fume / gas / mist / vapours / spray. P280: Wear protective gloves / protective clothing / eye protection / face protection. P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water / shower. P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. P310: Immediately call a POISON CENTER / doctor. P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing. P301+P312: IF SWALLOWED: Call a POISON CENTER / doctor if you feel unwell. P321: Specific treatment (see on this label). P363: Wash contaminated clothing before reuse. P405: Store locked up. P501: Dispose of contents / container in accordance with local regulations.</p>

3. Composition / information on ingredients:	
3.2 Mixtures:	Mixture of potassium hydroxide and water.
Information on potassium hydroxide:	
Weight percentage:	50%
CAS-number:	1310-58-3
EC-number:	215-181-3
Formula:	KOH
Non-hazardous ingredients:	
Water	50%
4. First aid measures:	
General information:	Immediately remove any clothing soiled by the product.
After inhalation:	Remove the affected person to fresh air and seek medical treatment. In case of unconsciousness, place the affected person in the stable side position.
After skin contact:	Immediately remove contaminated clothing and shoes. Immediately wash affected areas of skin with water and soap and rinse thoroughly. Seek medical treatment.
After eye contact:	Thoroughly rinse eyes with plenty of water. Seek medical treatment.
After swallowing:	Thoroughly rinse out mouth with water and then drink water to dilute. Do not induce vomiting. Seek medical treatment.
Most important symptoms and effects:	Hesi pH Plus is destructive to mucous membranes, upper respiratory tract, eyes and skin.
5. Firefighting measures:	
5.1 Extinguishing media:	
Suitable:	CO ₂ , powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
Unsuitable:	Water with full jet.
5.2 Special hazards arising from the substance or mixture:	
Hazardous combustion products:	Formation of toxic gases is possible during heating or in case of fire.
5.3 Advice for fire-fighters:	Special protective equipment for firefighting is necessary. Use self-contained breathing equipment and protective clothing. When possible, prevent fire-fighting water from entering surface water or groundwater.
	

6. Accidental release measures:	
6.1 Personal precautions, protective equipment and emergency procedures:	Wear protective equipment. Keep unprotected people away. Do not breathe fumes.
6.2 Environmental precautions:	Do not allow Hesi pH Plus to enter sewerage, surface water or groundwater. Inform the water manager immediately in case of contamination of aquatic environments with large amounts of Hesi pH Plus.
6.3 Methods and material for containment and cleaning up:	Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust) and dispose in accordance with section 13. Ensure adequate ventilation. Clean the affected area after complete removal of Hesi pH Plus.
7. Handling and storage:	
7.1 Precautions for safe handling:	Ensure good ventilation / exhaustion at the workplace. Prevent formation of aerosols.
7.2 Conditions for safe storage:	Store this product tightly closed in its original container, and in a cool, dry and well ventilated place. Keep it locked away from children and pets. Comply to national regulations.
Information on storage compatibility:	Do not store together with acids.
7.3 Specific end uses:	pH corrector that increases the pH value in liquid nutrient solutions for plants. Only for use as a pH corrector.
8. Exposure controls / personal protection:	
8.1 Control parameters: Ingredients with limit values that require monitoring at the workplace:	Potassium hydroxide (CAS 1310-58-3)
Workplace exposure limit:	2 mg/m ³
8.2 Personal protection:	Ensure good ventilation / exhaustion at the workplace. Immediately remove all soiled and contaminated clothing. Avoid contact with skin and eyes. Keep away from food, beverages and feed. Wash hands before breaks and at the end of work.
Respiratory protection:	Use of respiratory protection is required if the workplace limit value (listed at section 8.1) is exceeded.
Hand protection:	Protective gloves are required. The glove material has to be impermeable and resistant to the mixture.
Eye protection:	Tightly sealed goggles are recommended.

9. Physical and chemical properties:	
9.1 Information on basic physical and chemical properties:	
Physical state:	Liquid
Appearance:	Colourless liquid
Odour:	Odourless
pH:	13 at 20°C
Melting point / freezing point:	-20°C
Boiling point:	> 150°C
Flash point:	Not flammable
Explosive limits:	Not explosive
Vapour pressure:	No data available
Vapour density:	No data available
Relative density:	1,45 g/cm ³ at 20°C
Solubility in water:	100%
Viscosity:	No data available
10. Stability and reactivity:	
10.1 Chemical stability:	Hesi pH Plus does not decompose under recommended conditions of storage, use and temperature.
10.2 Possibility of hazardous reactions:	Hesi pH Plus can react with light alloys to form hydrogen, and creates a strong exothermic reaction with acids.
10.3 Conditions to avoid:	Avoid heating, freezing and change of container (keep Hesi pH Plus in its original packaging to avoid changing container).
10.4 Incompatible materials:	Avoid contact with acids.
10.5 Hazardous decomposition products:	No dangerous decomposition products known.
11. Toxicological information:	
11.1 Information on toxicological effects:	
Acute toxicity:	
1310-58-3 potassium hydroxide:	LD ₅₀ oral rat 273 mg/kg.
Likely routes of exposure:	
Inhalation:	Corrosive for the respiratory tract.
Skin contact:	Strong caustic effect on skin and mucous membranes.
Eye contact:	Strong caustic effect.
Swallowing:	Strong caustic effect on mouth and throat, with danger of perforation of oesophagus and stomach.
12. Ecological information:	
12.1 Ecological effects:	Do not allow undiluted Hesi pH Plus, or large quantities of the mixture to reach groundwater, surface water or sewerage. This will lead to a raised pH value in the aquatic environment, which may harm aquatic organisms and damage infrastructure.
12.2 Persistence and degradability:	No data available on biodegradation.

13. Disposal considerations:	
13.1 Product disposal:	Hesi pH Plus may not be disposed of in regular household garbage. It must be disposed of in compliance with the respective national regulations. Do not allow wastewater to be released into sewerage systems or surface water without the proper governmental permits.
13.2 Package disposal:	The packaging must be disposed of in compliance with the respective national regulations.
14. Transport information:	
14.1 UN number: ADR, IMDG, IATA:	UN1814
14.2 UN proper shipping name: ADR: IMDG, IATA:	1814 POTASSIUM HYDROXIDE SOLUTION POTASSIUM HYDROXIDE SOLUTION
14.3 Transport hazard class: ADR, IMDG, IATA: Class: Label:	 8: Corrosive substances 8
14.4 Packing group: ADR, IMDG, IATA:	II
14.5 Environmental hazards: Marine pollutant:	No
14.6 Special precautions for user: Danger code (Kemler): EMS number: Segregation groups:	Warning: Corrosive substances 80 F-A, S-B Alkalis
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:	Not applicable
14.8 Additional: Tunnel restriction code:	E
15. Regulatory information:	
15.1 Safety, health and environmental regulations / legislation specific for the substance or mixture: EU regulations:	No further authorisations or restrictions on use.
15.2 Chemical safety assessment:	A chemical safety assessment has not been carried out.

16. Other information:	
<p>16.1 Indication of changes: Previous version:</p> <p>Adjustments:</p>	<p>MSDS pH+ Plus GB 2016</p> <p>Re-written for adequate and relevant information, in accordance with the example set by ECHA (echa.europe.eu).</p>
<p>16.2 Abbreviations and acronyms: ADR:</p> <p>IMDG:</p> <p>IATA:</p> <p>GHS:</p>	<p>Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road).</p> <p>International Maritime Code of Dangerous Goods.</p> <p>International Air Transport Association.</p> <p>Globally Harmonized System of Classification and Labelling of Chemicals.</p>