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

1.1 Product identification

Product name	: Ph minus growth
Product code	: PhmGr
Product type	: liquid
Index number	:007-004-00-1
EG number	: 231-714-2
Reach registration number	: -
Cas number	: 7664-38-2
Other means of identification	: Nitric acid 38% NHO3

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

Recommended use	: For use in agriculture and horticulture
Uses advised against supplier cannot approve this use.	: Other unspecified industry. Due to the lack of related experience or data, the

1.3 Details of the supplier of the safety data sheet

Name	: Geni Investments BV
Office address	: Dennenburg 6
Postal code and place	: 3712 ED Huis ter heide (holland)
Email adres	: info@geni-investments.com
Web site	: www.geni-investments.com
tel	: +31(0)343 77 83

1.4 Emergency telephone number

Name	: National Poisoning Information Center
Telephone nr	: +31(0)302748888
	: Only intended to inform professional emergency services in case of acute poisoning
Opening hours	: 24 hours a day and 7 days a week

2 Hazard identification

2.1 Classification of the substance or mixture

Fabric with one component.

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

Classification : With.Corr.I H290 skin/Irrit.1A, H314

Classification according to Directive 67/548 / EEC [Dangerous Substances Directive]

Classification : C,R35 See Section 16 for the full text of the R or S phrases mentioned above.

: See section 11 for more information about health effects and symptoms.

2.2 Label components

Danger symbols

Signal word : Danger

Hazerd statements : EUH071 Corrosive to the respiratory tract.

H272 May promote fire; oxidizing.

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage. H318 Causes serious eye damage

H318 Causes serious eye damage.

precautionary measures

Prevention : P260 Do not breathe dust / fume / gas / mist / vapors / spray.

: P280 Wear protective gloves / protective clothing / eye protection / face protection.

Reaction

: P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing - rinse skin with water / shower..

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 gently with water for several minutes; remove contact lenses if possible; keep rinsing.
P310 Immediately call a POISON CENTER or doctor / consult

Storage : S3 / 9/49 Keep only in the original package in a cool, well-ventilated place.

EU regulatory (EC) Nr. 1907/2006 (REACH) Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles. : Does not apply

Special packaging requirements

Containers from a childproof closure must be provided. : Does not apply.

Sensible hazard indication. : Does not apply.

2.3 Further hazards

Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII : Does not apply.

Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII : Does not apply.

Other hazards that do not result in classification. : Attacks many metals that release highly flammable hydrogen gas that can form an explosive mixture in combination with air.

3 Composition and information on ingredients.

Substance / preparation. : Fabric with one component.
Product / ingredient name. : Nitric acid 38% NHO3
identification options.
RRN. : -

EG.	: 231-714-2
CAS number.	: 7697-37-2
Index.	: 007-004-00-1

Classification.

67/548/EEG.	: O; R8
67/548/EEG Regulation (EC) No 1272/2008 [CLP].	: Ox. Liq. 3 H272 Met. Corr. 1 H290 Skin Corr./Irrit. 1A H314.
Type	:

[A] Type [A] Component [B] Impurity [C] Stabilizing additive See Section 16 for the full text of the R or S phrases declared above. There are no additional ingredients present that, as far as is known to the supplier and in the applicable concentrations, are classified as harmful to health or the environment and must therefore be listed in this section.

4 First Aid measures

4.1 Description of the First Aid measures

If in doubt, always consult a doctor

Eye contact :

Immediately flush eyes with running water for at least 15 minutes while keeping the eyelids open. Consult a doctor immediately

Inhalation

In case of inhalation, remove to fresh air. If the patient is not breathing, is breathing irregularly, or if respiratory arrest is occurring, artificial respiration or oxygen should be given by trained personnel. Consult a doctor immediately.

Skin contact : In case of contact, immediately flush skin with plenty of water for at least 15 minutes, wash with soap and water, removing contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Consult a doctor immediately.

Ingestion : If large quantities of this material are swallowed, seek medical advice immediately. Do not induce vomiting unless medical personnel indicate that this is necessary. Never give anything by mouth to an unconscious person

Protection of first aid workers :No action may be taken if there is a risk of personal accidents or in case of insufficient training. If it is suspected that vapors are still present, the rescue worker must wear a suitable mask or independent breathing apparatus. This can be dangerous for those who use mouth-to-mouth respiration. 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 effects for human health:

Eye contact : Causes serious eye damage

Ingestion :

Vapor causes serious irritation to eyes and respiratory tract. May cause irritation to eyes, nose, mouth and throat. Exposure to decomposition products may cause a health hazard. After exposure, serious consequences with delay may occur.

Signs/symptoms of excessive exposure:

Eye contact	:Unwanted symptoms can include the following: pain, tears, red heath
Inhalation	:no typical symptoms and effects are known
Skin contact	:Adverse symptoms may include the following: pain or irritation, redness, blistering may occur
Ingestion	: Adverse symptoms may include the following: stomach pains
	Adverse symptoms may include the following: stomach pains

4.3 Indication of any immediate medical attention and special treatment required

Remarks for doctor :
In case of inhalation of decomposition products in a fire, symptoms may be delayed. The victim may need to remain under medical supervision for 48 hours.

Specific treatments : No specific treatment.

5 Fire-fighting measures

5.1 Extinguishing agents

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

Unsuitable extinguishing agents : Do not use chemical extinguishing agents or foam and do not attempt to put out the fire with steam or sand

5.2 Particular hazards arising from the substance or mixture

Risks of the substance or mixture. : In a fire or when heated, the pressure increases and the container may burst.

Hazardous thermal decomposition products :Decomposition products may include the following: phosphorus oxides Avoid breathing dust particles, vapors or exhalations of burning material. In case of inhalation of decomposition products in a fire, symptoms may be delayed

5.3 Advice for firefighters

Special precautions for firefighters :
Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action may be taken if there is a risk of personal accidents or in case of insufficient training.

Special protective equipment for firefighters. :
Firefighters should wear suitable clothing and an independent respirator (SCBA) that has a full face part and works with an overpressure mode. Clothing for firefighters (including helmets, protective boots and gloves), in accordance with European standard EN 469, provides a basic level of protection for incidents with chemical substances.

Extra information : Not available

6 Measures in the event of accidental release of the substance or mixture

6.1 Personal precautions, protective equipment and emergency procedures

For persons other than the emergency services. :No action may be taken if there is a risk of personal accidents or in case of insufficient training. Evacuate surrounding areas. Ensure that unprotected and superfluous personnel do not enter. Do not touch or walk through spilled material. Do not breathe vapor or fog. Ensure adequate ventilation. Wear suitable respiratory equipment if there is insufficient ventilation. Wear suitable personal protective equipment.

For the emergency services. :
If special clothing is required for handling the spilled product, also read any information in Section 8 about suitable and unsuitable materials. See also the information under the heading "For persons other than the emergency services".

6.2 Environmental precautions

Avoid spreading spilled material and waste material and prevent it from coming into 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 material for containment and cleaning up

Small spill :

Stop leak if without risk. Remove containers from the area that has been spilled. Dilute with water and mop up if water-soluble.

Have it removed by a licensed waste processing company. If this product dries out, it can cause a fire hazard. Avoid absorption in sawdust or other combustible material.6.4 Reference to other sections

Large spill : Stop leak if without risk. Remove containers from the area that has been spilled. Approach the emissions with the wind in your back. Avoid access to sewers, waterways, basements or closed spaces. Dispose of leaked material to a waste water treatment plant or act as follows. Absorb spilled preparation with non-combustible absorbent materials such as sand, earth, vermiculite or diatomaceous earth and dispose of in a disposal container in accordance with local regulations. Have it removed by a licensed waste processing company. Contaminated absorbent material can entail the same risks as the spilled product.

6.4 Reference to other sections.

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

7 Handling and storage

The information in this section contains general advice and guidelines. The list of Recommended 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 of the substance or mixture

Protective measures. :

Put on appropriate personal protective equipment (see Section 8). Do not allow the product to get into the eyes or on skin or clothing. Do not breathe vapor or fog. Do not take. If the material is hazardous to the respiratory tract under normal use, it should only be used with either adequate ventilation or suitable respiratory equipment. Store in the original package or in an approved alternative made from compatible material; Keep tightly closed when not in use. Keep separated from basic substances. Empty packaging contains residual product and can be dangerous. Do not reuse barrel. Spilled product must be cleaned up immediately to prevent damage to surrounding materials.

7.2 Conditions for safe storage, including any incompatibility of products

Recommendations : Store in accordance with local regulations. Store in original packaging, protected from direct sunlight, in a dry, cool, well-ventilated place, away from material with which contact should be avoided (see section 10) and food and drink. Store in a corrosion-resistant container with a corrosion-resistant inner liner. Keep locked up. Keep the container tightly closed and sealed until use. Opened packages must be carefully resealed and kept upright to prevent leakage. Do not store in packages without a label. Take appropriate measures to prevent release into the environment. Install a dam around storage facilities to prevent soil and water pollution in the event of spillage.

7.3 Specific end use

Recommendation. : Not available.

Solutions specific to the industrial sector. : Not available.

8 Exposure controls/personal protection.

The information in this section contains general advice and guidelines. The list of Recommended uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario (s)

8.1 Control parameters

Occupational exposure limits

Product / ingredient name : Nitric acid 38% NHO3

Exposure limit values

:

When this product contains ingredients with exposure limits, monitoring of persons, workplace environment or biological monitoring may be required to determine the effectiveness of ventilation or other control measures and / or the need for the use of respiratory protective equipment. For methods to determine exposure to chemical substances by inhalation and national guidelines for the determination of hazardous substances, consult European Standard EN 689.

DNEL's/DMEL's

type. **:** DNEL

Exposure. **:** Long Term Inhalation / Short-term Inhalation

Value. **:**2.6 mg/m³(long) /1.3 mg m³ (Short)

8.2 Exposure controls

Suitable technical control measures:

If dust, smoke, gas, vapor or mist is generated by the user's actions, use a closed installation, local exhaust, or other technical means of control to keep occupational exposure below all recommended or legal limits.

Individual protection measures.

Hygiene measures : There must be a washing facility or water for cleaning eyes and skin must be present.

Eye / face protection :Where a risk analysis indicates that this is necessary to avoid exposure to splashes, mists, gases or dusts, eye protection must be worn that meets an approved standard. Recommended: face shield Tight fitting safety glasses CEN: EN166.

Skin protection

Hand protection :When a risk analysis indicates that this is necessary, impermeable gloves must be worn when handling chemical products that are resistant to chemicals and that comply with an approved standard. > 8 hours (breakthrough time): butyl rubber, natural rubber (latex), neoprene, nitrile rubber, PVC, Viton.

Body protection : Personal protective equipment must be selected based on the task being performed and the associated risks. Recommended: Protective clothing.

Other skin protection. : Suitable footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and approved by an expert prior to using this product.

Respiratory protection :When a risk analysis indicates that this is necessary, you must use a well-fitting, air-purifying or air-breathing respirator that meets an approved standard. The selection of a mask should be based on expected exposure limits, the hazards of the product and the limits for safe working of the mask type. Recommended: acid gas filter (type E) self-contained breathing apparatus (SCBA) Filter P2SL (EN 143, 140).

Control of environmental exposure :
Emissions from ventilation or processing equipment must be checked to ensure that it meets the requirements of environmental protection legislation. In some cases, gas washers, filters or technical modifications to the process equipment are required to reduce emissions to an acceptable level.

9 Physical and chemical properties.

9.1 Information on basic physical and chemical properties.

Physical state.	: liquid
Color	: Colorless.to pale yellow.
smell	: irritating, corrosive.
Odor threshold	: 0,29 ppm
pH	: - 0,5 Conc. (% weight / weight): 1,233 g / l
Melting point / freezing point	: - 31,1 °C
Initial boiling point and boiling range	: 110,1 °C
Evaporation rate	: Not quite
Flammability (solid, gas)	: Not flammable
Burning time	: Not quite
Burning speed	: Not quite
Upper / lower flammability or explosion limits	: Below: Not determined
Vapor pressure	: 108,4 hPa @ 20 gr
Vapor density	: Not quite
Relative density	: Not quite
Bulk density	: Not quite
Density	: 1.233,5 kg/m3
Miscibility with water	: < 100g/l 20
Octanol / water partition coefficient	: Not quite
Auto-ignition temperature	: Not quite
Viscosity	: Dynamic: Not determined. Kinematic: Not determined
Explosive properties	: No
Oxidizing properties	: No

9.2 Other information

No additional information.

10 Stability and reactivity

10.1 Reactivity

May be corrosive to metals. Expert assessment

10.2 Chemical stability

The product is stable

10.3 Possible hazardous reactions

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

10.4 Circumstances to avoid

Reacts violently with water, especially when water is added to the product. Drying on clothing or other flammable materials can cause a fire. Keep away from acids, alkalis, reducing agents and combustible materials. Avoid contact with organic materials.

10.5 Chemically interacting materials

Attacks many metals that release highly combustible hydrogen gas that can form an explosive mixture in combination with air. Reactive or incompatible with the following materials: alkali metal.

Note :Corrosive for brass. Corrosive for galvanized metal. Reactive with copper, zinc, silver, magnesium. - Product can release nitrogen oxides (NO, NO2, etc.)

10.6 Hazardous decomposition products

Heating to decomposition results in highly corrosive vapors, nitrogen oxides (NO, NO2, etc.)

11 Toxicological data

11.1 Information on toxicological effects

Acute toxicity

Product / ingredient name	: nitric acid
result	: LC50 Inhalation.
Species	: Rat
Dose	:1,56 mg/l OECD 403
Exposure	: 4 h
References	:IUCLID 5
Conclusion/Summary	: Corrosive to respiratory system and digestive tract.

Irritation / corrosion

Conclusion/Summary

skin	: Corrosive to the skin.
eyes	: Corrosive to the eyes.
Breathing	: May be irritating to respiratory system.

Hypersensitivity.

Conclusion/Summary.

Skin : Corrosive to the skin

Breathing :

No data is available for this endpoint, therefore this classification is not considered to be applicable.

Mutageniciteit.

Conclusion/Summary. : No mutagenic effects.

Conclusion/Summary. :No carcinogenic effects.

Carcinogenicity.

Conclusion/Summary. : No carcinogenic effects.

Reproductive toxicity.

Product / ingredient name : nitric acid

Fertility : Negative.

Species : Rat

Dose : Oral:> 1500 mg / kg OECD 422

exposure : 28 days

References : IUCLID5

Conclusie/Samenvatting :Not considered to be toxic to the reproductive system.

Information about the most likely routes of exposure : Significant effects or critical hazards are not known.

Potential acute health effects

Inhalation :Vapor causes serious irritation to eyes and respiratory tract. May cause irritation to eyes, nose, mouth and throat. Exposure to decomposition products may cause a health hazard. After exposure, serious consequences with delay may occur.

Ingestion :Adverse symptoms may include the following: Mouth, throat or abdominal pain. Causes mouth, throat and stomach irritation.

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

Eye contact : Adverse symptoms may include the following: pain tears redness.

Delayed and immediate effects and also chronic effects due to short-term and long-term exposure Short-term exposure.

Possible direct effects : Causes severe burns.

Possible delayed effects : shortness of breath / difficulty breathing skin necrosis.

12 Ecological data

12.1 Toxicity

Product ingredient name : nitric acid
Result : Acuut LC 50> 100 mg/l sea water
Species : Fish - Carp
Exposure : 96 h
References : IUCLID5

Product ingredient name : nitric acid
Result : Acuut LC 50 180 mg/l sea water
Species : Invertebrates aquatic animals. Crustaceans
Exposure : 48 h
References : IUCLID5

12.2 Persistence and degradability : Easily biodegradable in plants and soil.

12.3 Bioaccumulation :This product is not expected to bioaccumulate through food chains in the environment.

12.4 Mobility in soil : Not available. (Earth / water separation coefficient (KOC).

12.5 Results of PBT and vPvB assessment

PBT : Does not apply

zPzB : Does not apply

12.6 Other harmful effects : Significant effects or critical hazards are not known.

13 Instructions for disposal

The information in this section contains general advice and guidelines. The list of Recommended uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario (s).

13.1 Waste treatment methods for product

Removal methods :The generation of waste should always be avoided as far as possible or kept to a minimum. Large quantities of product residues may not be discharged through the sewer, but must be processed in a suitable waste water treatment plant. Have surplus and non-recyclable products disposed of by a licensed waste processing company. The disposal of this product, solutions and all by-products must always be done in accordance with the applicable legislation in the field of environmental protection and waste disposal and with all other regionally or locally applicable regulations.

Hazardous waste : yes

European Waste Catalog (EAK)

Waste code : 06 01 05*

Waste notation :nitric and nitrous acid

Packing:
Removal methods : The generation of waste should always be avoided as far as possible or kept to a minimum. The empty package must be recycled. Incineration or landfilling should only be considered when recycling is not possible.

Special precautions :
This material and its container must be disposed of in a safe way. Be careful when handling empty packages / containers that have not been cleaned or rinsed. Empty barrels or inner bag can contain any residual product. Avoid spreading spilled material and waste material and prevent it from coming into contact with soil, waterways, drains and sewers

14 Information relating to transpor

Provisions: ADR/RID

14.1 VN- number : 2031

14.2 Proper shipping name in accordance with the model regulations of the UN. : nitric acid 38 %

14.3 Tra ard class (es).

14.4 Packing group : II

14.5 Environmental hazards : No

14.6 Additional : ADR/RID

Hazard identification number : 80

Limited amount : 0.00

Tunnel code : (E)

Regulation: ADN

14.1 UN number : 2031

14.2 UN proper shipping name : nitric acid 38 %

14.3 Transport hazard class(es) :

14.4 Packing group : II

14.5 Environmental hazards : no

14.6 Extra information : ADN

water polluting : no

Regulation: IATA

14.1 UN number : 2031

14.2 UN proper shipping name : nitric acid 38 %

14.3 Transport hazard class(es)

14.4 Packing group : II

14.5 Environmental hazards : No

14.6 Additional : IATA

Marine pollutant : No

Special precautions for user : Not applicable.

Passenger and Cargo Aircraft
Quantity limitation : 1.00 L

Packaging instructions : 855 I

Cargo Aircraft Quantity limitation : 30.00 L

Packaging instructions : 855

Regulation: IMDG

14.1 UN number : 2031

14.2 UN proper shipping name : nitric acid 38 %

14.3 Transport hazard class(es) :

14.4 Packing group : II

14.5 Environmental hazards : no

14.6 Extra information : IMDG

Marine pollutant : no

IMDG Code Segregation group : SG01

Emergency schedules (EmS): F-A, S-B

15 Regulations

15.1 Health, safety and environmental regulations/legislation specific to the substance or mixture

EU Regulation (EC) No 1907/2006 (REACH) Annex XIV - List of substances subject to authorization Substances of very high concern.

Other EU regulations

European inventory : All components are listed unless they are exempt.

Seveso II directive :This product is not covered by the Seveso II directive.

Other legislation : COUNCIL DIRECTIVE 94/33 / EC of 22 June 1994 on the protection of young people at work COUNCIL DIRECTIVE 92/85 / EEC of 19 October 1992 on the implementation of measures to promote safety and health improvement at work by employees during pregnancy, after delivery and during lactation.

Emission policy for water (ABM) : Slightly harmful to aquatic organisms., Remediation effort :, B

Comments : As far as we know, no other specific national or regional legislation applies.

15.2 Chemical safety assessment

Completed

16 Other information

Full text of abbreviated H sentences

ATE = Acute toxicity estimate
CLP = Classification, labeling and packaging of substances and mixtures [Regulation (EC) no. 1272/2008]
DNEL = The derived dose without effect
DMEL = Derived minimum effect dose EUH sentence
EUH sentence = CLP-specific hazard
PNEC = No effect concentration predicted
RRN = REACH registration number
PBT = Persistent, Bioaccumulative and Toxic
zPzB= very persistent and very bioaccumulative
bw = Body weight

Important literature references and sources of information.

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 in accordance with Regulation (EC) No 1272/2008 [CLP / GHS]
Classification : With. Corr. 1 H290 Skin Corr./Irrit. 1A H314
Justification: : Expert assessment Based on test data.

Full text of abbreviated H sentences
H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.
EUH071 Corrosive to the respiratory tract.
H272 May promote fire; oxidizing.
H290 May be corrosive to metals.

Full text of classifications [CLP / GHS
Eye Dam./Irrit. 1, H318: SERIOUS EYE INJURY / EYE IRRITATION - Category 1 Met. Corr. 1, H290: CORROSIVE TO METALS - Category 1 Ox. Liq. 3, H272: OXIDIZING LIQUIDS - Category 3 Skin Corr./Irrit. 1A, H314: SKIN CORROSION / IRRITATION - Category 1A.

Full text of abbreviated R phrase.
R8 Promotes the ignition of combustible substances.
R35 Causes severe burns.

Full text of classifications [Dangerous Substances Directive / Dangerous Preparations Directive]
O - Oxidizing
C - Corrosive

Date of issue / Date of revision

01-01-2019

Date of previous issue
01-01-2019

Version
2019 01

Compiled by Geni Investmenst B.V.

Notification to the reader

To the best of ours knowledge, the information contained in this Overview of safety Measures is correct until the date of publication.This information is given to safety advice, and only relates to the products and use specifically as described.This information regarding a product will not necessarily be applicable when this product is used with

(a) other product(s) or when the product is applied in a different way than discribed, because all products can present unknown risks and with caution must be used.Only the user is responsible for the decision regarding the suitability of the product.