1.1. Product identifier

14034-99 NitraVer 5 Nitrate Reagent

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

Use of the substance/mixture

Water analysis

1.3. Details of the supplier of the safety data sheet

Company name: HACH LANGE GmbH
Street: Willstätterstr. 11
Place: D-40549 Düsseldorf
Telephone: +49 (0)211 5288-383
e-mail: SDS@hach-lange.de
Internet: www.hach-lange.com
Responsible Department: HACH LANGE Ltd.
Pacific Way
Salford Manchester M50 1DL - United Kingdom
Tel. +44 (0) 161 872 1487
e-Mail: info@hach-lange.co.uk

HACH LANGE Ltd.
Unit 1, Chestnut Road Western Industrial Estate
IRL-Dublin 12
Tel. +353 (0)1 4602522
e-Mail: info@hach-lange.ie

1.4. Emergency telephone number:

Poison Control Center Mainz: Tel. +49 (0) 6131 19240 - 24 hour emergency service -

SECTION 2: Hazards Identification

2.1. Classification of the substance or mixture

Indications of danger: T - Toxic, Xn - Harmful, Xi - Irritant, N - Dangerous for the environment
R phrases:
May cause cancer.
Possible risk of impaired fertility.
Possible risk of harm to the unborn child.
Toxic by inhalation.
May cause sensitisation by skin contact.
Possible risks of irreversible effects.
Irritating to eyes and skin.
Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.
Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

2.2. Label elements

Danger symbols:

T - Toxic; N - Dangerous for the environment
14034-99 NitraVer 5 Nitrate Reagent

Product code: 1403499

Hazardous components which must be listed on the label
4-aminobenzenesulphonic acid, sulphanilic acid
Cadmium (non-pyrophoric)

R phrases
45 May cause cancer.
62 Possible risk of impaired fertility.
63 Possible risk of harm to the unborn child.
23 Toxic by inhalation.
43 May cause sensitisation by skin contact.
68 Possible risks of irreversible effects.
36/38 Irritating to eyes and skin.
48/20/22 Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.
51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S phrases
53 Avoid exposure - obtain special instructions before use.
24 Avoid contact with skin.
35 This material and its container must be disposed of in a safe way.
45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
38/37/39 Wear suitable protective clothing, gloves and eye/face protection.

Special labelling of certain mixtures
Restricted to professional users.

Additional advice on labelling
Classification according to European directive on classification of hazardous preparations 1999/45/EC.

2.3. Other hazards
An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

SECTION 3: Composition/information on ingredients

3.2. Mixtures
Hazardous components

<table>
<thead>
<tr>
<th>EC No</th>
<th>Chemical name</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>231:913-4</td>
<td>Potassium dihydrogen phosphate</td>
<td>30-40 %</td>
</tr>
<tr>
<td>7778-77-0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>204-482-5</td>
<td>4-aminobenzenesulphonic acid, sulphonic acid</td>
<td>25-35 %</td>
</tr>
<tr>
<td>121-57-3</td>
<td>XI - Irritant. R36/38-43</td>
<td></td>
</tr>
<tr>
<td>812-014-00-X</td>
<td>Eye Irrit. 2, Skin Irrit. 2, Skin Sens. 1; H319 H315 H317</td>
<td></td>
</tr>
<tr>
<td>207-718-5</td>
<td>2,5-Dihydroxybenzoic acid</td>
<td>15-25 %</td>
</tr>
<tr>
<td>490-79-9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>231-288-2</td>
<td>Magnesium sulphate</td>
<td>5-15 %</td>
</tr>
<tr>
<td>10034-99-8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>231-152-8</td>
<td>Cadmium (non-pyrophoric)</td>
<td>5.8 %</td>
</tr>
<tr>
<td>048-002-00-0</td>
<td>Carc. 1B, Muta. 2, Repr. 2, Acute Tox. 2, STOT RE 1, Aquatic Acute 1, Aquatic Chronic 1; H350 H341 H361fd H330 H372 ** H400 H410</td>
<td></td>
</tr>
</tbody>
</table>

Full text of R and H phrases: see Section 16.

Further Information
This product contains substances of very high concern (Regulation (EC) No 1907/2006 (REACH), Article 57).

SECTION 4: First aid measures

4.1. Description of first aid measures

General information
Take off all contaminated clothing immediately.
Consult a physician. Show this safety data sheet to the doctor in attendance.

After inhalation
Move to fresh air.
Consult a physician. Show this safety data sheet to the doctor in attendance.

After contact with skin
Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

After contact with eyes
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Show this safety data sheet to the doctor in attendance.

After ingestion
Consult a physician. Show this safety data sheet to the doctor in attendance. Induce vomiting, but only if victim is fully conscious.
4.2. Most important symptoms and effects, both acute and delayed
No known effect.
4.3. Indication of any immediate medical attention and special treatment needed
Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media
Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. The product itself does not burn.

5.2. Special hazards arising from the substance or mixture
Fire may liberate hazardous vapours. The following may develop in event of fire: sulfur oxides, nitrogen oxides (NOx)

5.3. Advice for firefighters
In the event of fire, wear self-contained breathing apparatus. In order to avoid contact with skin, keep a safety distance and wear suitable protective clothing.

Additional information
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Use personal protective equipment.

6.2. Environmental precautions
Do not flush into surface water or sanitary sewer system.

6.3. Methods and material for containment and cleaning up
Should not be released into the environment. Sweep up or vacuum up spillage and collect in suitable container for disposal.

6.4. Reference to other sections
13. Disposal considerations

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Advice on safe handling
Use only in well-ventilated areas. Do not breathe vapours/dust.

Advice on protection against fire and explosion
See also section 5

Further information on handling
Observe label precautions.

7.2. Conditions for safe storage, including any incompatibilities
Requirements for storage rooms and vessels
Keep tightly closed in a dry, cool and well-ventilated place. Protect against light. Accessible only for authorized persons.

7.3. Specific end use(s)
Reagent for analysis

SECTION 8: Exposure controls/personal protection
8.1. Control parameters

8.2. Exposure controls

Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice.

Protective and hygiene measures
The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Wash hands before breaks and after work.

Eye/face protection
Safety glasses with side-shields

Hand protection
Use barrier skin cream.
Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to EN 374. In full contact: Gloves material: Viton, Layer thickness: 0.70 mm, Breakthrough time: >480 min. In splash contact: Gloves material: nitrile rubber, Layer thickness 0.20 mm, Breakthrough time: > 30 min

Skin protection
Remove and wash contaminated clothing before re-use.

Respiratory protection
Breathing apparatus only if aerosol or dust is formed.

Environmental exposure controls
Do not flush into surface water or sanitary sewer system.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| Physical state: | powder |
| Colour: | grey |
| Odour: | odourless |

Test method

pH-Value (at 20 °C): 2.8 (5 % solution)

Changes in the physical state

Melting point: 180 °C

Initial boiling point and boiling range: not applicable

Sublimation point: no data available

Softening point: no data available

Pour point: not applicable

Flash point: not applicable

Flammability
Solid: not applicable
Gas: not applicable

Explosive properties
no data available

Lower explosion limits: not applicable
Upper explosion limits: not applicable

Ignition temperature: no data available
14034-99 NitraVer 5 Nitrate Reagent

Auto-Ignition temperature
Solid: no data available
Gas: no data available
Decomposition temperature: no data available

Oxidizing properties
no data available

Vapour pressure: no data available
Vapour pressure: no data available
Density (at 20 °C): 2 g/cm³
Bulk density: no data available
Water solubility: completely soluble
(at 20 °C)

Solubility in other solvents
no data available

Partition coefficient: no data available
Viscosity / dynamic: not applicable
Viscosity / kinematic: not applicable
Flow time: no data available
Vapour density: no data available
Evaporation rate: no data available
Solvent separation test: no data available
Solvent content: no data available

9.2. Other information
Solid content: no data available
no data available

SECTION 10: Stability and reactivity

10.1. Reactivity
Reactivity Hazard: Oxidizing agents

10.2. Chemical stability
Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions
Hazardous polymerisation does not occur.

10.4. Conditions to avoid
No dangerous reaction known under conditions of normal use. Stable under recommended storage conditions.

10.5. Incompatible materials
Oxidizing agents, Sulphur compounds

10.6. Hazardous decomposition products
No decomposition if stored and applied as directed. To avoid thermal decomposition, do not overheat.

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Acute toxicity
LD50/oral/rat = 1500 mg/kg
Irritation and corrosivity
No data is available on the product itself.

Sensitising effects
May cause sensitisation by skin contact.

Carcinogenic/mutagenic/toxic effects for reproduction
Known carcinogen.
Cadmium and cadmium compounds (as respirable dust/aerosols) have proven so far to be unmistakably carcinogenic in animal experimentation only, namely under conditions which are comparable to those for possible exposure of a human being at the workplace, or from which such comparability can be deduced.

Specific effects in experiment on an animal
No data is available on the product itself.

SECTION 12: Ecological Information

12.1. Toxicity
May cause long-term adverse effects in the aquatic environment. Do not flush into surface water or sanitary sewer system.

12.2. Persistence and degradability
No data is available on the product itself.

12.3. Bioaccumulative potential
no data available

12.4. Mobility in soil
no data available

12.5. Results of PBT and vPvB assessment
no data available

12.6. Other adverse effects
Discharge into the environment must be avoided.

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Advice on disposal
In accordance with local and national regulations.

Waste disposal number of waste from residues/unused products
160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing dangerous substances, including mixtures of laboratory chemicals Classified as hazardous waste.

Waste disposal number of used product
SECTION 14: Transport Information

Land transport (ADR/RID)

14.1. UN number: UN 3077
14.2. UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
14.3. Transport hazard class(es): 9
14.4. Packing group: III
Hazard label: 9

Classification code: M7
Special Provisions: 274 335 601
Limited quantity: 5 kg
Transport category: 3
Hazard No: 90
Tunnel restriction code: E

Other applicable information (land transport)

Excepted Quantities: E1

Inland waterways transport (ADN)

Other applicable information (inland waterways transport)

Not tested

Marine transport (IMDG)

14.1. UN number: UN 3077
14.2. UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
14.3. Transport hazard class(es): 9
14.4. Packing group: III
Hazard label: 9

Special Provisions: 274, 335, 966, 967
Limited quantity: 5 kg
EmS: F-A, S-F

Other applicable information (marine transport)

Excepted Quantities: E1
14.1. UN number: UN 3077  
14.2. UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.  
14.3. Transport hazard class(es): 9  
14.4. Packing group: III  
Hazard label: 9

Special Provisions: A97 A158 A176  
Limited quantity Passenger: 30 kg G

IATA-packing instructions - Passenger: 956
IATA-max. quantity - Passenger: 400 kg
IATA-packing instructions - Cargo: 956
IATA-max. quantity - Cargo: 400 kg

Other applicable information (air transport)  
Excepted Quantities: E1  
Passenger-LQ: Y956

14.6. Special precautions for user  
Use personal protective equipment.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code  
not applicable

Other applicable information  
Additional Information: This product may be shipped as part of a chemical kit composed of various compatible dangerous goods for analytical or testing purposes. This kit would have the following classification: Proper Shipping Name: Chemical Kit, Hazard Class: 9, UN Number 3316, Package group II, EMS Code: F-A, S-P

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture  
National regulatory information


Water contaminating class (D): 3 - highly water contaminating

15.2. Chemical safety assessment  
Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Changes  
Revision: 08.05.2013
Safety Data Sheet

according to Regulation (EC) No 1907/2006

14034-99 NitraVer 5 Nitrate Reagent

Print date: 21.03.2014  Product code: 1403499  Page 10 of 10

Safety datasheet sections which have been updated: 4-15
Revision: 18.07.2014  Safety datasheet sections which have been updated: 9+14

Full text of R phrases referred to under Sections 2 and 3
23  Toxic by inhalation.
26  Very toxic by inhalation.
36/38 Irritating to eyes and skin.
43  May cause sensitisation by skin contact.
45  May cause cancer.
48/20/22 Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.
48/23/25 Toxic: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.
50  Very toxic to aquatic organisms.
51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
53  May cause long-term adverse effects in the aquatic environment.
62  Possible risk of impaired fertility.
63  Possible risk of harm to the unborn child.
68  Possible risks of irreversible effects.

Full text of H statements referred to under Sections 2 and 3
H302  Harmful if swallowed.
H315  Causes skin irritation.
H317  May cause an allergic skin reaction.
H319  Causes serious eye irritation.
H330  Fatal if inhaled.
H341  Suspected of causing genetic defects.
H350  May cause cancer.
H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.
H372  Causes damage to organs through prolonged or repeated exposure.
H400  Very toxic to aquatic life.
H410  Very toxic to aquatic life with long lasting effects.

Further Information
The information is based on present level of our knowledge. It does not, however, give assurances of product properties and establishes no contract legal rights.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor’s safety data sheet.)