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

1.1 Product identifier

REF: 740235.50  
Product name: NucleoSpin Microbial DNA (50)

REACH Registration number(s): see SECTION 3.1/3.2 or a registration number for the substance(s) does not exist because the annual tonnage does not require registration or the substance or its use is excluded from registration.

- 1 x 6 mL B5
- 1 x 30 mL BE
- 1 x 30 mL BW
- 1 x 600 µL Liquid Proteinase K
- 1 x 38 mL MG
- 50 x 1 Bead Tube Type B (glass beads)

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

Relevant identified uses
Product for analytical use.

Exposure Scenario Classification according REACh, RIP 3.2 Codes: SU 0-2, PC 21, PROC 15, AC 0

The exposure scenario is integrated into sections 1-16.

Uses advised against
not described

1.3 Details of the supplier of the safety data sheet

Manufactured by:
MACHEREY-NAGEL GmbH & Co. KG
Neumann-Neander-Str. 6-8, 52355 Düren, GERMANY
Tel.: +49 2421 989 0  
E-mail: msds@mn-net.com

1.4 Emergency telephone number

Outside Germany (DE): Call your regional Poisons Information Service or call local Life Saving Service.
DE: Gemeinsames Giftinformationszentrum (GGIZ) 99089 Erfurt tel. +49 361 730 730

You find our current versions of SDS (22 languages) in Internet: http://www.mn-net.com/MSDS

SECTION 2: Hazard identification

2.0 Classification of the complete product

GHS02 GHS07

Signal word: WARNING

Hazard identification:
EUH031 031 not defined
H226 Flam. Liq. 3
H302 Acute Tox. 4
H317 Skin Sens. 1
H319 Augenreizung Kat. 2
H336 STOT SE 3
H412 Aquatic Chronic 3

2.1 Classification of the substance or mixture

6 mL B5

do not need labelling as hazardous
Safety Data Sheet
according to Regulations 1907/2006/EC (REACH) and 2015/830/EU

Signal word -

No hazard class

30 mL BE
do not need labelling as hazardous

Signal word -

No hazard class

30 mL BW

Signal word WARNING

Hazard identification Hazard classes/categories
H226 Flam. Liq. 3
H302 Acute Tox. 4
H319 Augenreizung Kat. 2
H336 STOT SE 3

600 µL Liquid Proteinase K

Signal word WARNING

Hazard identification Hazard classes/categories
H317 Skin Sens. 1

38 mL MG

Signal word WARNING

Hazard identification Hazard classes/categories
EUH031 031 not defined
H302 Acute Tox. 4
H412 Aquatic Chronic 3

1 Bead Tube Type B (glass beads)
do not need labelling as hazardous

Signal word -

No hazard class
2.2 Label elements

According CLP (GHS) inner packages must be only labelled with symbol(s) and product identifier (EU 1272/2008 Annex I - 1.5.1.2). Harmful chemicals/mixtures with signal word: WARNING and highly flammable chemicals/mixtures must not be labelled with H and P phrases until 125 mL (EU 1272/2008 Annex I - 1.5.2). This labelling exemption is NOT valid for sensibilizing substances. The irritant hazard should be eliminated, because of buffer chemicals inside.

6 mL B5
do not need labelling as hazardous
Signal word: -

30 mL BE
do not need labelling as hazardous
Signal word: -

30 mL BW

GHS02 GHS07
Signal word: WARNING

600 µL Liquid Proteinase K

GHS07
Signal word: WARNING
H317
May cause an allergic skin reaction.
P261sh, P280sh
Avoid breathing dust/vapours. Wear protective gloves/eye protection.

38 mL MG

GHS07
Signal word: WARNING

1 Bead Tube Type B (glass beads)
do not need labelling as hazardous
Signal word: -

2.3 Other hazards

Possible Hazards from physicochemical Properties
In the case of pH values are less than 5 or higher than 9 then it is irritant. Flammable properties. Vapour forms explosive mixtures with air.

Information pertaining to particular Risks to Human and possible Symptoms
Cause after oral intake, skin contact, impairments of health when ingested in small quantities.
Kit contains small amounts of enzymes: May cause sensitization by skin contact, also in repeated contact of small amounts. In liquid form no hazard H334.
Safety Data Sheet
according to Regulations 1907/2006/EC (REACH) and 2015/830/EU

REF: 740235.50
NucleoSpin Microbial DNA (50)
Printing date: 26.07.2017
Date of issue: 03.07.2017
Version: M 4.0.0.0

Information pertaining to particular Risks to the Environment
PBT: not applicable
vPvB: not applicable

Other Hazards
---

SECTION 3: Composition/Information on Ingredients

3.1 Substances or 3.2 Mixtures

6 mL B5
Chemical: chemicals/mixture < 1%, no declaration necessary
CAS No.: -
Concentration: 0,1 - <1 %
TSCA Inventory: all listed, <1%
KE No.: listed
acc. CLP (GHS): not necessary

30 mL BE
Chemical: chemicals/mixture < 1%, no declaration necessary
CAS No.: -
Concentration: 0,1 - <1 %
TSCA Inventory: all listed, <1%
KE No.: listed
acc. CLP (GHS): not necessary

30 mL BW
Chemical: guanidine hydrochloride
CAS No.: 50-01-1
Concentration: 36 - <50 %
Formula: CH₆ClN₃
Pseudonym: guanidinium chloride
REACH Reg. No.: ---
EC No.: 200-002-3
RTECS: MF4300000
TSCA Inventory: listed
KE No.: KE-18111
acc. CLP (GHS): H302, H319

30 mL BW
Chemical: 2-propanol
CAS No.: 67-63-0
Concentration: 20 - <35 %
Formula: C₃H₈O
Pseudonym: isopropanol, IPA, propan-2-ol
REACH Reg. No.: 01-2119457558-25-xxxx
EC No.: 200-661-7
RTECS: MFCD: 00011674
TSCA Inventory: listed
KE No.: KE-29363
acc. CLP (GHS): H226, H319, H336

600 µL Liquid Proteinase K
Chemical: proteinase K, liquid (origin: tritirachium album)
CAS No.: 39450-01-6l
Concentration: 1 - <3 %
Formula: Enzyme Comm. No. 3.4.21.64, origin: tritirachium album serine
EC No.: 254-457-8
RTECS: -
TSCA Inventory: listed (CAS 102925-54-2)
KE No.: not listed
acc. CLP (GHS): H317
3.3 Remarks
List of H and P phrases: see section 16.1

SECTION 4: First aid measures

4.1 Description of first aid measures
Place insured person out of danger zone to fresh air immediately. Ensure quiet, warmth, and provide resuscitation if necessary. If necessary contact medical advice.

4.1.1 After SKIN Contact
Remove contaminated clothing immediately. Rinse the affected skin or mucous membrane thoroughly for min. 15 minutes under running water. (If possible) use soap. Avoid neutralisation. Then apply a loose bandage.

4.1.2 After EYE Contact
After contact with the eyes rinse thoroughly under running water with the eyelid wide open with eye washing bottle, eye douche or running water (protect intact eye).

4.1.3 After INHALATION of Vapours
After inhalation of foam or vapour fresh air should be inhaled. Keep airways free.

4.1.4 After ORAL Intake
After oral intake lots of water should be drunk after it has been ingested.

4.2 Most important symptoms and effects, both acute and delayed
May cause sensitization by skin contact, also in repeated contact of small amounts. Avoid inhalation of dust. ---

4.3 Indication of any immediate medical attention and special treatment needed
After SKIN CONTACT rinse with water for a long time. Apply glucocorticosteroids following inflammatory reactions. Inform patient respectively further measures and the possibility of long-term damages. ---
SECTION 5: Firefighting measures

5.1 Extinguishing media
Fire extinguishers appropriate to the fire classification, and, if applicable, a fire blanket must be available in a prominent location in the work area. All extinguishers like FOAM, WATER SPRAY, DRY POWDER, CARBON DIOXIDE can be used.

5.2 Special hazards arising from the substance or mixture
WARNING: Flammable (GHS regulation). May form explosive vapour-air mixtures. Formation of hazardous and caustic vapour-air mixtures possible. ---

5.3 Advice for firefighters
No, for listed product. Product package burns like paper or plastic. Spray any vapours released with water. Retent fire water. Use only acid-resistant safety equipment.
For great amount - if necessary - protective breathing apparatus which is independent of the ambient air (isolated equipment), and sealed protective clothing is necessary in the event of a large-scale formation of toxic substances.

5.4 Additional Information
Danger for environment only in the event of a large-scale leakage or formation of hazardous substances. ---

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Do not breathe vapours. Wear suitable protective gloves (see 8.2.2). Wear eye protection. Regular staff training is necessary, indicating hazards and precautions on the basis of operating instructions. Restrictions on activity must be observed.

6.2 Environmental precautions
not necessary, contains only small amounts of these substances

6.3 Methods and material for containment and cleaning up
Bind any escaping liquid with inert absorbent. And dispose in accordance to local regulations for the disposal of hazardous chemicals.
Clean any contaminated equipment and floors with plenty of water.
Collect small amounts of leaked liquid and flush with water into drains.

6.4 Reference to other sections
see information in section 5.4 ---

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Handling in accordance with the test instruction, that comes with the product.

7.2 Conditions for safe storage, including any incompatibilities
The original product package of MACHEREY-NAGEL allows a safe storage.
Storage class (VCI): 3
Water hazard class (DE): 3

7.2.1 Requirements for Stock Rooms and Containers
Keep original product packages tightly closed during handling and storage.

7.3 Specific end use(s)
Product for analytical use.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

| 6 mL B5 | Chemical: | chemicals/mixture < 1%, no declaration necessary | CAS No.: - |
| 30 mL BE | Chemical: | chemicals/mixture < 1%, no declaration necessary | CAS No.: - |
| 30 mL BW | Chemical: | guanidine hydrochloride | CAS No.: 50-01-1 |
| NIOSH: | not listed | | |
| OSHA: | not listed | | |

[TWA] Time-weighted average to a reference period of 8 hours, [STEL] Short-term exposure limit related to a 15-minute period
### 8.2 Exposure controls

Good ventilation and extraction system in the room, floor resistant to chemicals with floor drainage and washing facilities. The highest level of cleanliness must be maintained at the workplace.

#### 8.2.1 Respiratory Protection

No additional recommendations.

#### 8.2.2 Hand Protection

Yes, gloves according EN 374 (permeation time >30 min - level 2), consist of PVC, natural latex, Neopren, or Nitril (f.ex. from Ansell or KCL). Use for short times chemical resistant latex gloves with code EN 374-3 level 1.

#### 8.2.3 Eye Protection

Yes, safety glasses according EN 166 with integrated side shields or wrap-around protection.

#### 8.2.4 Skin Protection

Recommended to avoid contamination with these hazards.

#### 8.2.5 Personal Hygiene

Eating, drinking, smoking, taking snuff and storage of food in work areas and at outdoor workplaces is prohibited. Avoid contact with the skin, eyes and clothing. Rinse any clothing on which the substance has been spilled, and soak it in water. Wash hands thoroughly with soap and water when stopping work and before eating, and then apply protective skin cream.
### SECTION 9: Physical and chemical properties

#### 9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Substance</th>
<th>Appearance</th>
<th>Colour</th>
<th>Odor</th>
<th>pH</th>
<th>Specific gravity</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 mL B5</td>
<td>liquid</td>
<td>colourless</td>
<td>odorless</td>
<td>7-8</td>
<td>1.00 g/cm³</td>
</tr>
<tr>
<td>30 mL BE</td>
<td>liquid</td>
<td>colourless</td>
<td>odorless</td>
<td>8-9</td>
<td>1.0 g/cm³</td>
</tr>
<tr>
<td>30 mL BW</td>
<td>liquid</td>
<td>colourless</td>
<td>alcoholic</td>
<td>7-8</td>
<td>1.06 g/cm³</td>
</tr>
<tr>
<td>600 µL Liquid Proteinase K</td>
<td>liquid</td>
<td>colourless</td>
<td>odorless</td>
<td>7-8</td>
<td>1.1 g/cm³</td>
</tr>
<tr>
<td>38 mL MG</td>
<td>liquid</td>
<td>slightly yellow</td>
<td>odorless</td>
<td>6.5-7.5</td>
<td>0-100 %</td>
</tr>
<tr>
<td>1 Bead Tube Type B (glass beads)</td>
<td>powder (solid)</td>
<td>colourless</td>
<td>odorless</td>
<td>40-400 µm</td>
<td></td>
</tr>
</tbody>
</table>

#### 9.2 Other information

Data for the other parameters of the mixtures are not available, because no registration and no chemical safety report is required.

### SECTION 10: Stability and reactivity

#### 10.1 Reactivity

no further data available.

#### 10.2 Chemical stability

No known instability.

#### 10.3 Possibility of hazardous reactions

Note: Can form very reactive substances with oxidizing agents. Possible: Contact with acids liberates toxic gas. No further data available.

#### 10.4 Conditions to avoid

Not necessary. ---

#### 10.5 Incompatible materials

Avoid contact with strong acids or alkalines.

#### 10.6 Hazardous decomposition products

In the original package all parts/all reagents are safety and separated stored. Decompositions are not observed during the expiration period under recommended conditions.
SECTION 11: Toxicological information

11.1 Information on toxicological effects

Following information is valid for pure substances. Quantitative data on the toxicity of this product are not available.

6 mL B5

Chemical: chemicals/mixture < 1%, no declaration necessary
TSCA Inventory: all listed, <1%
Korea Exist.Chem.Inventory: listed

30 mL BE

Chemical: chemicals/mixture < 1%, no declaration necessary
TSCA Inventory: all listed, <1%
Korea Exist.Chem.Inventory: listed

30 mL BW

Chemical: guanidine hydrochloride
TSCA Inventory: listed
Australia NICNAS: not listed
Japan CSCL/PRTR: not listed
Japan PDSCL: not listed
South Korea TCCA: not listed
Korea Exist.Chem.Inventory: KE-18111
LD50 (oral rat): 475 mg/kg
LC50 (inhale rat): 5.34 mg/m³
LD50 (derm rbt): >2000 mg/kg

Acute Effects: Cause after oral intake, impairments of health when ingested in small quantities.

600 µL Liquid Proteinase K

Chemical: proteinase K, liquid (origin: tritirachium album)
TSCA Inventory: listed (CAS 102925-54-2)
Japan CSCL/PRTR: not listed
Korea Exist.Chem.Inventory: not listed

Acute Effects: Cause after skin contact, impairments of health when ingested in small quantities. May cause sensitization by skin contact, also in repeated contact of small amounts.

Chemical: glycerol
TSCA Inventory: listed (1,2,3-Propanetriol)
Exposure Routes: inhalation, skin and/or eye contact
Target Organs: Eyes, skin, respiratory system, kidneys
Symptoms: irritation eyes, skin, respiratory system; headache, nausea, vomiting; kidney injury
Japan CSCL/PRTR: not listed
Japan PDSCL: not listed
Korea Exist.Chem.Inventory: KE-29297
LD50 (oral rat): 12.8 g/kg
LD50 (derm rat): >18.7 g/kg
TRGS 905 (DE): R F C

38 ml MG
Chemical: guanidinium thiocyanate
CAS No.: 593-84-0

TSCA Inventory: listed
California Proposition 65 List: not listed

LD50 (i.d. rat): 593 mg/kg
LC50 (dmr rat): 2000 mg/m³
LC50 (i.h. rat): 5.319 mg/L
LD50 (i.p. mus): 300 mg/kg

Acute Effects: Cause after oral intake, impairments of health when ingested in small quantities.

1 Bead Tube Type B (glass beads)
Chemical: glass particles
CAS No.: -

SECTION 12: Ecological information

12.1 Toxicity
Following information is valid for pure substances.

6 ml BS
Chemical: chemicals/mixture < 1%, no declaration necessary
Water hazard class (DE): 1
Storage class (VCI): 12-13

30 ml BE
Chemical: chemicals/mixture < 1%, no declaration necessary
Water hazard class (DE): 1
Storage class (VCI): 12-13

30 ml BW
Chemical: guanidine hydrochloride
CAS No.: 50-01-1

LC50 (leuciscus idus/96h): 1759 mg/L
Water hazard class (DE): 1
Storage class (VCI): 12

Chemical: 2-propanol
CAS No.: 67-63-0

PNEC (fresh water): 140.9 mg/L
LC50 (leuciscus idus/96h): 1400 mg/L
EC50 (daphnia/48h): 13.3 g/L
IC50 (scenedesmus quadricauda/72h): >1000 mg/L
EC10 (pseudomonas putita/16h): EC5: 1050 mg/L
Water hazard class (DE): 1
Dispersion coefficient (octanol-water): 0.05
Storage class (VCI): 3

600 µL Liquid Proteinase K
Chemical: proteinase K, liquid (origin: tritirachium album)
CAS No.: 39450-01-6

Water hazard class (DE): 1
Storage class (VCI): 13

Chemical: glycerole
CAS No.: 56-81-5

PNEC (fresh water): 0.885 mg/L
LC50 (leuciscus idus/96h): >5000 mg/L
EC50 (daphnia/48h): >1024 g/L
IC50 (scenedesmus quadricauda/72h): IC57d >10 g/L
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EC10 pseudomonas putita/16h:  
Water hazard class (DE): 0
Dispersion coefficient (octanol-water): -1.76
Storage class (VCI): 10

38 mL MG
Chemical: guanidinium thiocyanate  
CAS No.: 593-84-0
Harmful to aquatic life with long lasting effects. Avoid contact of substance/mixture to environment.
Water hazard class (DE): 3
Storage class (VCI): 12

1 Bead Tube Type B (glass beads)
Chemical: glass particles  
CAS No.: -
Storage class (VCI): 12-13

12.2 Persistence and degradability
not necessary

12.3 Bioaccumulative potential
not necessary

12.4 Mobility in soil
not necessary

12.5 Results of PBT and vPvB assessment
no data available

12.6 Other adverse effects
no additional data available

SECTION 13: Disposal considerations
Do not collect in acidic waste. May form toxic gases.
Please observe local regulations for collection and disposal of hazardous waste and contact waste disposal company, where you will obtain information on laboratory waste disposal (waste code number 16 05 06).

13.1 Waste treatment methods
Normally it is possible to empty small amounts (diluted!) into drains.

SECTION 14: Transport information

UN 1993 class 3 III, Excepted Quantities (≤30 mL/∑≤1 L) = ADR/ IATA E1
or
14.1 UN number: 1993 14.2 UN proper shipping name: Flammable liquid, n.o.s. (2-propanol mixture)
14.3 Class: 3 14.4 Packing group: III

Road transport
Classification code: F1
Limited Quantity: 5 L Tunnel restriction code: E
Excepted Quantity: E 1 Special instructions: 640E

Air transport
PAX: 355 max. weight PAX: 60 L
CAO: 366 max. weight CAO: 220 L

Maritime transport
EmS: F-E, S-E Storage category: A

14.5 Environmental hazards
not necessary, contains only small quantities of hazardous substances, contains only small amounts of these substances

14.6 Special precautions for user
not necessary
Safety Data Sheet
according to Regulations 1907/2006/EC (REACH) and 2015/830/EU

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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

German act governing protection from hazardous substances (Chemicals Act / Chemikaliengesetz-ChemG), revised on August 2013
German order governing protection from hazardous substances (Ordinance on Hazardous Substances / Gefahrgutverordnung - GefStoffV), revised on November 2010, according to Directive 99/45/EC
TRGS 200, German engineering rules governing the classification and labelling of hazardous substances, preparations and products, updated October 2011

15.2 Chemical safety assessment
not necessary for these small amounts ---

SECTION 16: Other Information

16.1 List of H and P phrases

16.1.1 List of relevant H phrases

H226 Flammable liquid and vapour.
H302 Harmful if swallowed.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.
H412 Harmful to aquatic life with long lasting effects.
EUH031 Contact with acids liberates toxic gas.

16.1.2 List of relevant P phrases

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P260D Do not breathe vapours.
P261sh Avoid breathing dust/vapours.
P264W Wash with water thoroughly after handling.
P273 Avoid release to the environment.
P280sh Wear protective gloves/eye protection.
P301+312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P330 Rinse mouth.

16.2 Training Advice
Multiple safety training of staffs about danger and protection by using hazards in working area. Additionally training and introduction of staffs for using these products.

16.3 Recommended Restriction on Use

Only for professional user.
Look about employee restrictions for young people (f. ex. 94/33/EC or DE § 22JArbSchG)
Look about employee restrictions for pregnant women and nursing women (f.ex. 92/85/EEC or DE §§ 4 und 5 MuSchRIV)
An individual package of this product or test kit has a moderate hazardous potential.

16.4 Further Information

MACHEREY-NAGEL GmbH & Co. KG provides the information contained herein in good faith being up-to-date of own realizations at revision time. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgement in determining its appropriateness for a particular purpose.

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16.5 Sources of Key Data

Regulation 453/2010/EU REACH - REQUIREMENTS FOR THE COMPILATION OF SAFETY DATA SHEETS
Regulation 497/2013/EU, 4th adaptation of CLP regulation to technical and scientific progress
TRGS 900, German engineering rules governing limits in air at work, updated September 2016
SUVa.CH, Limits in air at work 2009, revised on 01.2009
TRGS 907, German engineering rules governing listing of substances and causes of sensitizations, updated November 2011
KÜHN, BIRETT Merkblätter Gefährliche Arbeitsstoffe (Data Sheets of Hazardous Substances)

Revisions/Updates
Reason for Revision: 2016-03 Adaptation of regulation 1221/2015/EU