

# Safety Data Sheet

## SDS acc. Hazard Communication Standard

REF: 740406.50

NucleoSpin RNA Set for NucleoZOL (50)

Page: 1/9

Printing Date: 27.02.2020

Date of Issue: 22.11.2018

### Section 1: Identification

#### 1.1 Product Identifier / Product Name

REF	740406.50
Product Name	NucleoSpin RNA Set for NucleoZOL (50)
-	
	1 x 60 mL MX
	1 x 12 mL RA3
	1 x 13 mL RNase-free H <sub>2</sub> O

#### 1.2 Relevant identified Uses of the Substance or Mixture and Uses advised against

**Relevant identified uses**  
 Product for Analytical Use.  
 The Exposure scenario is integrated into sections 1-16.

**Uses advised against**  
 not described

#### 1.3 Details of the Supplier and of the Safety Data Sheet

**Manufactured by:**  
 MACHEREY-NAGEL GmbH & Co. KG  
 Neumann-Neander-Str. 6-8, 52355 Dueren, GERMANY  
 Tel.: +49 2421 969 0

E-mail: [sds@mn-net.com](mailto:sds@mn-net.com) ([msds@mn-net.com](mailto:msds@mn-net.com))

#### 1.4 Emergency Telephone Number

For Chemical Emergency  
 Spill, Leak, Fire, Exposure, or Accident  
 Call CHEMTREC Day or Night (CCN685047)  
 Within USA and Canada: **1-800-424-9300**  
 Outside USA and Canada: **+1 703-527-3887** (collect calls accepted)

You find our current versions of SDS (22 languages) in Internet:

<http://www.mn-net.com/SDS>

### Section 2: Hazard(s) Identification

#### 2.0 Classification of the complete Product



GHS02    GHS07    GHS08

Signal Word                      DANGER

Hazard Identification	Hazard Classes/Categories
H225	Flam. Liq. 2
H319	Eye Irrit. 2
H335	STOT SE 3
H351	Carc. 2

#### 2.1 Classification of the Substance(s) or Mixture(s)

60 mL MX



GHS02    GHS07    GHS08

# Safety Data Sheet

## SDS acc. Hazard Communication Standard

REF: 740406.50 NucleoSpin RNA Set for NucleoZOL (50) Page: 2/9  
 Printing Date: 27.02.2020 Date of Issue: 22.11.2018

Signal Word	DANGER
<b>Hazard Identification</b>	<b>Hazard Classes/Categories</b>
H225	Flam. Liq. 2
H319	Eye Irrit. 2
H335	STOT SE 3
H351	Carc. 2

### 12 mL RA3

Signal Word	Do not need labelling as hazardous
No Hazard Class	-

### 13 mL RNase-free H<sub>2</sub>O

Signal Word	Do not need labelling as hazardous
No Hazard Class	-

## 2.2 Safety, Health and Environmental Regulations/Legislation specific for the Substance or Mixture

According to the implementation of GHS immediate packages only must be labelled with product identifier(s), GHS symbol(s), signal word, manufacturer name and phone number (OSHA's interpretation of HCS 2012).

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) / **until 100 mL** (Canada WHMIS 2015). This labelling exemption does not apply to U.S.A.

### 60 mL MX



Signal Word: DANGER

H351  
 Suspected of causing cancer.

P201, P280sh  
 Obtain special instructions before use. Wear protective gloves/eye protection.

### 12 mL RA3

Do not need labelling as hazardous  
 Signal Word: -

### 13 mL RNase-free H<sub>2</sub>O

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. ---

### Information pertaining to particular Risks to Human and possible Symptoms

Cause after inhalation of vapors/dust, impairments of health when ingested in small quantities. Suspected of causing cancer. -

### Information pertaining to particular Risks to the Environment

PBT: not applicable  
 vPvB: not applicable

# Safety Data Sheet

## SDS acc. Hazard Communication Standard

REF: 740406.50

NucleoSpin RNA Set for NucleoZOL (50)

Page: 3/9

Printing Date: 27.02.2020

Date of Issue: 22.11.2018

### Other Hazards

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## Section 3: Composition/Information on Ingredients

### 3.1 Substances or 3.2 Mixtures

#### 60 mL MX

Chemical:	1,4-dioxane	CAS No.:	123-91-1
Classification:	H225, Flam. Liq. 2, H319, Eye Irrit. 2, H335, STOT SE 3, H351, Carc. 2		
Chemical Formula:	C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>		
Synonyms:	diethylene dioxide; diethylene ether; p-dioxane		
TSCA Inventory:	listed		
RTECS:	JG8225000	MFCD:	00006571
EC No.:	204-661-8	Indice No.:	603-024-00-5
Weight Percent:	90 - <100 %		
acc. GHS:	H225, Flam. Liq. 2, H319, Eye Irrit. 2, H335, STOT SE 3, H351, Carc. 2		

#### 12 mL RA3

Chemical:	chemicals/mixture < 1%	CAS No.:	-
Classification:	No criteria for classification or naming of chemical is not required.		
TSCA Inventory:	all listed, <1%		
Weight Percent:	0,1 - <1 %		
acc. GHS:	The criteria for classification are not fulfilled.		

#### 13 mL RNase-free H<sub>2</sub>O

Chemical:	water	CAS No.:	7732-18-5
Classification:	No criteria for classification or naming of chemical is not required.		
Chemical Formula:	H <sub>2</sub> O		
TSCA Inventory:	listed		
RTECS:	ZC0110000		
EC No.:	231-791-2		
Weight Percent:	90 - <100 %		
acc. GHS:	The criteria for classification are not fulfilled.		

### 3.3 Remarks

When not listed, mixtures are added with water [CAS No. 7732-18-5] to 100%.

List of Hazard and Precaution 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. Rinse the affected skin or mucous membrane thoroughly under running water. (If possible) use soap.

#### 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 Vapors

After inhalation of foam or vapor 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

CMR Effects: Suspected of causing cancer. ---

### 4.3 Indication of any immediate Medical Attention and Special Treatment needed

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# Safety Data Sheet

## SDS acc. Hazard Communication Standard

REF: 740406.50

NucleoSpin RNA Set for NucleoZOL (50)

Page: 4/9

Printing Date: 27.02.2020

Date of Issue: 22.11.2018

### Section 5: Fire-Fighting Measures

#### 5.1 Extinguishable 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 WATER FOG, WATER SPRAY, alcohol-resistant FOAM, DRY CHEMICAL, CARBON DIOXIDE can be used.

#### 5.2 Special Hazards arising from the Substance or Mixture

DANGER: Highly flammable. Forms explosive vapor-air mixtures. Formation of hazardous and caustic vapor-air mixtures possible. ---

#### 5.3 Advice for Firefighters

No, for listed product. Product package burns like paper or plastic.

#### 5.4 Additional Information

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### Section 6: Accidental Release Measures

#### 6.1 Personal Precautions, Protective Equipment and Emergency Procedure

Do not breathe vapors. Wear suitable protective gloves (see 8.2.2). 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

#### 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 hazards. Clean any contaminated equipment and floors with plenty of water. Collect small amounts of leaked liquid and flush with water into sewer.

#### 6.4 Reference to other Sections

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### 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): 2

#### 7.2.1 Conditions for Safe Storage, including any Incompatibilities

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

##### 60 mL MX

Chemical: 1,4-dioxane

CAS No.: 123-91-1

DNEL: 73 mg/m<sup>3</sup>

DNEL = Derived No-Effect Level (for workers)

PNEC<sub>(fresh water)</sub>: 10 mg/L

PNEC = Predicted No Effect Concentration

NIOSH: Occupational Carcinogen List Yes; TWA<sub>30min</sub> 1 ppm / 3.6 mg/m<sup>3</sup>

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

OSHA: [skin] TWA 100 ppm / 360 mg/m<sup>3</sup>

EU value: 20 ppm / 73 mg/m<sup>3</sup>

##### 12 mL RA3

# Safety Data Sheet

## SDS acc. Hazard Communication Standard

REF: 740406.50      NucleoSpin RNA Set for NucleoZOL (50)      Page: 5/9  
 Printing Date: 27.02.2020      Date of Issue: 22.11.2018

Chemical: *chemicals/mixture < 1%*

CAS No.: -

**13 mL RNase-free H<sub>2</sub>O**

Chemical: *water*

CAS No.: 7732-18-5

### 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 (permeation time >30 min - level 2), consist of PVC, Natural latex, Neopren, or Nitril. Use for short times chemical resistant Latex gloves f.ex. with code EN 374-3 level 1.

#### 8.2.3 Eye/Face Protection

Yes, Splash Goggles.

#### 8.2.4 Skin Protection

Recommended.

#### 8.2.5 Hygiene Measures

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

#### 60 mL MX

a) Appearance: liquid	Color: colorless	b) Odor: odorless
c) Odor Threshold:	10-620 mg/m <sup>3</sup>	
d) pH:	6-8	
e) Melting Point:	12 °C	
f) Boiling Point:	101.5 °C	
g) Flash Point:	11 °C	
h) Evaporation Rate <sub>(ether=1)</sub> :	7,3	
i) Flammability (solid, gas):	data not available	
j) Explosive Limits:	1.9-22.5 Vol%	
k) Vapor Pressure (68°F):	41 hPa	
l) Vapor Density <sub>(air=1)</sub> :	3,04	
m) Specific Gravity:	1.01-1.03 g/cm <sup>3</sup>	
n) Soluble in Water:	< 2 %	
o) Partition Coefficient (o-w):	data not available	
p) Autoignition Temperature:	375 °C	
q) Decomposition temperature:	data not available	
r) Viscosity:	data not available	
s) Explosive properties:	data not available	
t) Oxidizing properties:	---	

#### 12 mL RA3

a) Appearance: liquid	Color: colorless	b) Odor: odorless
c) Odor Threshold:	data not available	
d) pH:	7-8	
e) Melting Point:	data not available	
f) Boiling Point:	data not available	
g) Flash Point:	data not available	
h) Evaporation Rate <sub>(ether=1)</sub> :	data not available	
i) Flammability (solid, gas):	data not available	
j) Explosive Limits:	data not available	
k) Vapor Pressure (68°F):	data not available	
l) Vapor Density <sub>(air=1)</sub> :	data not available	
m) Specific Gravity:	1.00 g/cm <sup>3</sup>	
n) Soluble in Water:	data not available	
o) Partition Coefficient (o-w):	data not available	
p) Autoignition Temperature:	data not available	
q) Decomposition temperature:	data not available	

# Safety Data Sheet

## SDS acc. Hazard Communication Standard

REF: 740406.50

NucleoSpin RNA Set for NucleoZOL (50)

Page: 6/9

Printing Date: 27.02.2020

Date of Issue: 22.11.2018

- r) Viscosity: data not available  
 s) Explosive properties: data not available  
 t) Oxidizing properties: ---

### 13 mL RNase-free H<sub>2</sub>O

- |  |                       |                   |
|--|-----------------------|-------------------|
| a) Appearance: liquid                      | Color: colorless      | b) Odor: odorless |
| c) Odor Threshold:                         | data not available    |                   |
| d) pH:                                     | 6-8                   |                   |
| e) Melting Point:                          | data not available    |                   |
| f) Boiling Point:                          | data not available    |                   |
| g) Flash Point:                            | data not available    |                   |
| h) Evaporation Rate <sub>(ether=1)</sub> : | data not available    |                   |
| i) Flammability (solid, gas):              | data not available    |                   |
| j) Explosive Limits:                       | data not available    |                   |
| k) Vapor Pressure (68°F):                  | data not available    |                   |
| l) Vapor Density <sub>(air=1)</sub> :      | data not available    |                   |
| m) Specific Gravity:                       | 1.0 g/cm <sup>3</sup> |                   |
| n) Soluble in Water:                       | data not available    |                   |
| o) Partition Coefficient (o-w):            | data not available    |                   |
| p) Autoignition Temperature:               | data not available    |                   |
| q) Decomposition temperature:              | data not available    |                   |
| r) Viscosity:                              | data not available    |                   |
| s) Explosive properties:                   | data not available    |                   |
| t) Oxidizing properties:                   | ---                   |                   |

## 9.2 Other Information

Data for the other parameters of the mixtures are not available.

### Relevant Properties of Substance Group

Substances are very volatile and form flammable vapor-air mixtures. ---

## 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

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 chemicals. Quantitative data on the toxicity of this product are not available.

#### 60 mL MX

Chemical:	1,4-dioxane	CAS No.:	123-91-1
TSCA Inventory:	listed	California Prop. 65 List:	listed cancer
Exposure Routes:	inhalation, skin absorption, ingestion, skin and/or eye contact		
Target Organs:	Eyes, skin, respiratory system, liver, kidneys; [in animals: lung, liver & nasal cavity tumors]		
Symptoms:	irritation eyes, skin, nose, throat; drowsiness, headache; nausea, vomiting; liver damage; kidney failure; [potential occupational carcinogen]		
Canada CEPA 1999:	DSL Yes		
LD50 <sub>orl</sub> rat :	5150 mg/kg		
LC50 <sub>ihl</sub> rat :	[LC0, 60min] 155 mg/L		

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# Safety Data Sheet

## SDS acc. Hazard Communication Standard

REF: 740406.50	NucleoSpin RNA Set for NucleoZOL (50)	Page: 7/9
Printing Date: 27.02.2020	Date of Issue: 22.11.2018	

Acute Effects: Cause after inhalation of vapors/dust, impairments of health when ingested in small quantities.  
 Carcinogenic Effects: Suspected of causing cancer.  
 EU carcinogen: Carcinogenicity cat. 2

### 12 mL RA3

Chemical: *chemicals/mixture < 1%* CAS No.: -  
 TSCA Inventory: all listed, <1%

### 13 mL RNase-free H<sub>2</sub>O

Chemical: *water* CAS No.: 7732-18-5  
 TSCA Inventory: listed

## Section 12: Ecological Information

### 12.1 Toxicity

Following information is valid for pure chemicals.

#### 60 mL MX

Chemical: *1,4-dioxane* CAS No.: 123-91-1  
 PNEC(fresh water) : 10 mg/L  
PNEC = Predicted No Effect Concentration  
 Bio Toxicity: 1/2. 1/2.6  
 LC50<sub>fish/96h</sub> : [21d] 100 mg/L  
 EC50<sub>daphnia/48h</sub> : 1 g/L  
 IC50<sub>scenedesmus quadricauda/72h</sub> : [72h] 1 g/L  
 Partition Coefficient (o-w): -0.42

#### 12 mL RA3

Chemical: *chemicals/mixture < 1%* CAS No.: -

#### 13 mL RNase-free H<sub>2</sub>O

Chemical: *water* CAS No.: 7732-18-5

### 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

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 (RCRA Code D002/D003, EU waste code number 16 05 06).

### 13.1 Waste Treatment Methods

Normally it is possible to empty small amounts (diluted!) into drains.



# Safety Data Sheet

## SDS acc. Hazard Communication Standard

REF: 740406.50

NucleoSpin RNA Set for NucleoZOL (50)

Page: 8/9

Printing Date: 27.02.2020

Date of Issue: 22.11.2018

### Section 14: Transport Information

14.1. UN/NA: 1993 14.2. Proper Shipping Name: Flammable liquid, n.o.s. (1,4-dioxane mixture)  
 14.3. Hazard Class: 3 14.4. Packing Group: II

*Transportation by Road*  
 Classification code: F1  
 Limited Quantity: 1 L Tunnel restriction code: E  
 Excepted Quantity: E 2 Special instructions: 640C

*Air Transportation*  
 PAX: 353 max. weight PAX: 5 L  
 CAO: 364 max. weight CAO: 60 L

*Maritime Transport*  
 EmS: F-E, S-E Storage Category: B

#### 14.5 Environmental Hazards

none, contains only small quantities of hazardous substances

#### 14.6 Special Precautions for User

not necessary

#### 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

##### U.S. Federal Regulations

OSHA "A Guide to The Globally Harmonized System of Classification and Labelling of Chemicals (GHS)"

<https://www.osha.gov/dsg/hazcom/ghs.html>

29 CFR 1910.1200 Hazard communication.

NIOSH Pocket Guide to Chemical Hazards

NIOSH Workplace Safety & Health Topics

TSCA Inventory

##### U.S. State Regulations

California Prop 65, Safe Drinking Water and Toxic Enforcement Act of 1986

##### Canada

Canada CEPA 1999 - Domestic Substances List (DSL), List of Toxic Substances (Schedule 1)

MN Leaflet/User manual, also see [www.mn-net.com](http://www.mn-net.com)

#### 15.2 Chemical Safety Assessment

not necessary for these small amounts ---

### Section 16: Other Information

#### 16.1 List of Hazard and Precaution Phrases

##### 16.1.1 List of relevant H Phrases

H225 Highly flammable liquid and vapor.  
 H319 Causes serious eye irritation.  
 H335 May cause respiratory irritation.  
 H351 Suspected of causing cancer.

##### 16.1.2 List of relevant P Phrases

P201 Obtain special instructions before use.  
 P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.  
 P233 Keep container tightly closed.  
 P261sh Avoid breathing dust/vapors.  
 P280sh Wear protective gloves/eye protection.  
 P403+233 Store in a well-ventilated place. Keep container tightly closed.

#### 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



# Safety Data Sheet

## SDS acc. Hazard Communication Standard

REF: 740406.50

NucleoSpin RNA Set for NucleoZOL (50)

Page: 9/9

Printing Date: 27.02.2020

Date of Issue: 22.11.2018

Only for Professional User.

Look about employee restrictions for young people!

Look about employee restrictions for pregnant women and nursing women!

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

GHS: EU Regulation 1272/2008/EC on Classification, Labelling and Packaging of Substances and Mixtures, amending and repealing EU Directives 67/548/EEC and 1999/45/EC, and amending EU Regulation 1907/2006/EC

SDS: EU Regulation 453/2010/EU REACH - Requirements for the Compilation of Safety Data Sheets  
KÜHN, BIRETT (German), Data Sheets of Hazardous Substances

#### Revisions/Updates

Reason for Revision: 2016-03 Adaptation of European Regulation 1221/2015/EU

You find our current Versions of SDS in Internet:

<http://www.mn-net.com/SDS> [U.S. English]