

**02 / Dec / 2014****Manufacturer:**

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## Summary - Material Safety Data Sheet

**Product: innuSOLV RNA Reagent**

Summary may be subject to change – please inquire for update!

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 08.07.2014

Revision: 08.07.2014

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

**Product identifier****Trade name:** innuSOLV RNA Reagent**Relevant identified uses of the substance or mixture and uses advised against:**

No further relevant information available.

**Application of the substance / the preparation:** Buffer**Uses advised against:** No further information available.**Details of the supplier of the safety data sheet****Manufacturer/Supplier:**

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E-Mail: giftinfo@uniklinik-freiburg.de  
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### 2 Hazards identification

**Classification of the substance or mixture:****Classification according to Regulation (EC) No 1272/2008:**

GHS06 skull and crossbones

Acute Tox. 3 H331 Toxic if inhaled.



GHS08 health hazard

Muta. 2 H341 Suspected of causing genetic defects.

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.



GHS05 corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

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Acute Tox. 4 H312 Harmful in contact with skin.

**Classification according to Directive 67/548/EEC or Directive 1999/45/EC:**

T; Toxic

R23/24/25: Toxic by inhalation, in contact with skin and if swallowed.



C; Corrosive

R34: Causes burns.



Xn; Harmful

R48/20/21/22-68: Harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed. Possible risk of irreversible effects.

R32: Contact with acids liberates very toxic gas.

**Information concerning particular hazards for human and environment:**

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

**Classification system:**

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

**Label elements:****Labelling according to Regulation (EC) No 1272/2008:**

The product is classified and labelled according to the CLP regulation.

**Hazard pictograms:**

GHS05 GHS06 GHS08

**Signal word:** Danger**Hazard-determining components of labelling:**

Phenol

Guanidinium thiocyanate

Sodium N-lauroylsarcosinate

**Hazard statements:**

H302+H312 Harmful if swallowed or in contact with skin.

H331 Toxic if inhaled.

H314 Causes severe skin burns and eye damage.

H341 Suspected of causing genetic defects.

H373 May cause damage to organs through prolonged or repeated exposure.

**Precautionary statements:**

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read label before use.

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): Remove/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.

P405 Store locked up.

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P501 Dispose of contents/container in accordance with local/regional/national/international regulations. (Contd. of page 2)

**Additional information:**

EUH032 Contact with acids liberates very toxic gas.

**Other hazards:****Results of PBT and vPvB assessment:****PBT:** Not applicable.**vPvB:** Not applicable.

### 3 Composition/information on ingredients

**Chemical characterization: Mixtures****Description:** Mixture of substances listed below with nonhazardous additions.**Dangerous components:**

CAS: 108-95-2 EINECS: 203-632-7	Phenol T R23/24/25; C R34; Xn R48/20/21/22-68 Muta. Cat. 3 Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; Muta. 2, H341; STOT RE 2, H373; Skin Corr. 1B, H314	25-50%
CAS: 593-84-0 EINECS: 209-812-1	Guanidinium thiocyanate C R34; Xn R20/21/22 R32-52/53 Skin Corr. 1B, H314; Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332; Aquatic Chronic 3, H412	10-<25%
CAS: 137-16-6	Sodium N-lauroylsarcosinate T+ R26; Xi R38-41 Acute Tox. 2, H330; Eye Dam. 1, H318; Skin Irrit. 2, H315	0.1-<0.3%

**Additional information:** For the wording of the listed risk phrases refer to section 16.

### 4 First aid measures

**Description of first aid measures:****General information:**

Take affected persons out into the fresh air.

Do not leave affected persons unattended.

**After inhalation:**

Supply fresh air; consult doctor in case of complaints.

Call a doctor immediately.

**After skin contact:**

Immediately wash with water and soap and rinse thoroughly.

Call a doctor immediately.

**After eye contact:**

Rinse opened eye for several minutes under running water.

Call a doctor immediately.

**After swallowing:** Call a doctor immediately.**Information for doctor:****Most important symptoms and effects, both acute and delayed:**

No further relevant information available.

**Hazards:** Danger of gastric perforation.**Indication of any immediate medical attention and special treatment needed:**

No further relevant information available.

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### 5 Firefighting measures

**Extinguishing media:****Suitable extinguishing agents:**CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.**For safety reasons unsuitable extinguishing agents:** Water with full jet**Special hazards arising from the substance or mixture:**

Formation of toxic gases is possible during heating or in case of fire.

**Advice for firefighters:****Protective equipment:** Do not inhale explosion gases or combustion gases.

### 6 Accidental release measures

**Personal precautions, protective equipment and emergency procedures:**

Wear protective clothing.

Use respiratory protective device against the effects of fumes/dust/aerosol.

**Environmental precautions:** Do not allow product to reach sewage system or any water course.**Methods and material for containment and cleaning up:**

Ensure adequate ventilation.

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

**Reference to other sections:**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

### 7 Handling and storage

**Handling:****Precautions for safe handling:**

Ensure good ventilation/exhaustion at the workplace.

Store in cool, dry place in tightly closed receptacles.

**Information about fire - and explosion protection:** Keep ignition sources away - Do not smoke.**Conditions for safe storage, including any incompatibilities:****Storage:****Requirements to be met by storerooms and receptacles:** Store only in the original receptacle.**Information about storage in one common storage facility:**

Store away from foodstuffs.

Do not store together with acids.

**Further information about storage conditions:**

Keep container tightly sealed.

Store receptacle in a well ventilated area.

Store under lock and key and with access restricted to technical experts or their assistants only.

**Specific end use(s):** No further relevant information available.

### 8 Exposure controls/personal protection

**Additional information about design of technical facilities:** No further data; see item 7.

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**Control parameters:****Ingredients with limit values that require monitoring at the workplace:****108-95-2 Phenol**WEL Short-term value: 16 mg/m<sup>3</sup>, 4 ppmLong-term value: 7.8 mg/m<sup>3</sup>, 2 ppm

Sk

**Exposure controls:****Personal protective equipment:****General protective and hygienic measures:**

The usual precautionary measures are to be adhered to when handling chemicals.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Do not inhale gases / fumes / aerosols.

**Respiratory protection:** Use suitable respiratory protective device in case of insufficient ventilation.**Protection of hands:** Protective gloves**Material of gloves:**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

**Penetration time of glove material:**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

**Eye protection:** Tightly sealed goggles

## 9 Physical and chemical properties

**Information on basic physical and chemical properties:****General Information:****Appearance:****Form:** Fluid**Colour:** Pink**Odour:** Characteristic**Odour threshold:** Not determined.**pH-value:** Not determined.**Change in condition:****Melting point/Melting range:** Undetermined.**Boiling point/Boiling range:** 100 °C**Flash point:** 81 °C (Phenol)**Flammability (solid, gaseous):** Not applicable.**Ignition temperature:** 595 °C**Decomposition temperature:** Not determined.**Self-igniting:** Product is not selfigniting.**Danger of explosion:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.**Explosion limits:****Lower:** 1.3 Vol %

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<b>Upper:</b>	9.5 Vol %
<b>Vapour pressure at 20 °C:</b>	23 hPa
<b>Density:</b>	Not determined.
<b>Relative density:</b>	Not determined.
<b>Vapour density:</b>	Not determined.
<b>Evaporation rate:</b>	Not determined.
<b>Solubility in / Miscibility with water:</b>	Soluble.
<b>Partition coefficient (n-octanol/water):</b>	Not determined.
<b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
<b>Other information:</b>	No further relevant information available.

### 10 Stability and reactivity

**Reactivity:****Chemical stability:****Thermal decomposition / conditions to be avoided:**

No decomposition if used according to specifications.

**Possibility of hazardous reactions:**

Reacts with acids, alkalis and oxidizing agents.

Develops toxic gases/fumes.

**Conditions to avoid:** No further relevant information available.**Incompatible materials:** No further relevant information available.**Hazardous decomposition products:** No dangerous decomposition products known.

### 11 Toxicological information

**Information on toxicological effects:****Acute toxicity:****LD/LC50 values relevant for classification:****108-95-2 Phenol**

Oral LD50 317 mg/kg (rat)

Dermal LD50 850 mg/kg (rabbit)

**593-84-0 Guanidinium thiocyanate**

Oral LD50 593 mg/kg (rat)

**Primary irritant effect:****on the skin:** Strong caustic effect on skin and mucous membranes.**on the eye:** Strong caustic effect.**Sensitization:** No sensitizing effects known.**Additional toxicological information:**

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

**CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction):**

Muta. 2

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## 12 Ecological information

**Toxicity:****Aquatic toxicity:** No further relevant information available.**Persistence and degradability:** No further relevant information available.**Behaviour in environmental systems:****Bioaccumulative potential:** No further relevant information available.**Mobility in soil:** No further relevant information available.**Additional ecological information:****General notes:**

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

**Results of PBT and vPvB assessment:****PBT:** Not applicable.**vPvB:** Not applicable.**Other adverse effects:** No further relevant information available.

## 13 Disposal considerations

**Waste treatment methods:****Recommendation:**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

**Uncleaned packaging:****Recommendation:** Disposal must be made according to official regulations.

## 14 Transport information

**UN-Number:**

ADR, IMDG, IATA

UN2821

**UN proper shipping name:**

ADR

2821 PHENOL SOLUTION

IMDG, IATA

PHENOL SOLUTION

**Transport hazard class(es):**

ADR, IMDG, IATA

**Class:**

6.1 Toxic substances.

**Label:**

6.1

**Packing group:**

ADR, IMDG, IATA

II

**Environmental hazards:****Marine pollutant:**

No

**Special precautions for user:**

Warning: Toxic substances.

**EMS Number:**

F-A,S-A

**Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

**UN "Model Regulation":**

UN2821, PHENOL SOLUTION, 6.1, II

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## 15 Regulatory information

### Safety, health and environmental regulations/legislation specific for the substance or mixture:

No further relevant information available.

**Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

### Relevant phrases:

H301	Toxic if swallowed.
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H330	Fatal if inhaled.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H341	Suspected of causing genetic defects.
H373	May cause damage to organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.
R20/21/22	Harmful by inhalation, in contact with skin and if swallowed.
R23/24/25	Toxic by inhalation, in contact with skin and if swallowed.
R26	Very toxic by inhalation.
R32	Contact with acids liberates very toxic gas.
R34	Causes burns.
R38	Irritating to skin.
R41	Risk of serious damage to eyes.
R48/20/21/22	Harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.
R52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R68	Possible risk of irreversible effects.

### Department issuing MSDS:

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### Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
 IMDG: International Maritime Code for Dangerous Goods  
 IATA: International Air Transport Association  
 GHS: Globally Harmonized System of Classification and Labelling of Chemicals  
 EINECS: European Inventory of Existing Commercial Chemical Substances  
 ELINCS: European List of Notified Chemical Substances  
 CAS: Chemical Abstracts Service (division of the American Chemical Society)  
 LC50: Lethal concentration, 50 percent  
 LD50: Lethal dose, 50 percent

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Acute Tox. 3: Acute toxicity, Hazard Category 3  
Acute Tox. 4: Acute toxicity, Hazard Category 4  
Acute Tox. 2: Acute toxicity, Hazard Category 2  
Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B  
Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2  
Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1  
Muta. 2: Germ cell mutagenicity, Hazard Category 2  
STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2  
Aquatic Chronic 3: Hazardous to the aquatic environment - Chronic Hazard, Category 3

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