Material Safety Data Sheet

Prepared according to EC Directive 91/155 EC Date: 01/08/10

PRODUCT NAME	CATALOGUE NUMBERS	COMPONENTS
1Step RT PCR Kit	**RTK02XX**	**1. 1Step RT PCR Mastermix, 2X** **2. RT2 Mix, 20X (RNase Inhibitor+RTase)** **3. PCR Water**
	XX – can be different numbers/letters depending on product sizes	

I. COMPANY MANUFACTURER/SUPPLIER AND CONTACT IN CASE OF EMERGENCY

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II. HAZARDS IDENTIFICATION

Component: 1.

1Step RT PCR Mastermix, 2X

Classification according to Regulation (EC) No 1272/2008: The product is not classified according to the CLP regulation.
Classification according to Directive 67/548/EEC or Directive 1999/45/EC: Void
Information concerning particular hazards for human and environment: The product does not have 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 was made according to the latest editions of the EU lists, and expanded upon from company and literature data.
Labelling according to EU guidelines: Observe the general safety regulations when handling chemicals. The product is not subject to identification regulations under EU Directives and the Ordinance on Hazardous Materials (GefStoffV).
Safety phrases: 35 This material and its container must be disposed of in a safe way.
Other hazards: Results of PBT and vPvB assessment
PBT: Not applicable. **vPvB:** Not applicable.

III. COMPOSITION/INGREDIENT INFORMATION

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

- CAS: 126-33-0, EINECS: unclassified sulfolane 5-15%

Additional information: Components not listed here are not hazardous or their concentrations do not exceed the limits specified in the OSHA Hazard Communication Standard 29 CFR 1910.1200.

IV. FIRST AID MEASURES

General information: No special measures required.
After inhalation: Supply fresh air; consult doctor in case of complaints.
After skin contact: Generally the product does not irritate the skin.
After eye contact: Rinse opened eye for several minutes under running water.
After swallowing: Induce vomiting and call for medical help.
Information for doctor, most important symptoms and effects, both acute and delayed: No further relevant information available.
Indication of any immediate medical attention and special treatment needed: No further relevant information available.

V. FIREFIGHTING MEASURES

Suitable extinguishing agents: CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
Special hazards arising from the substance or mixture: No further relevant information available.
Protective equipment: No special measures required.

VI. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Not required.
Environmental precautions: Dilute with plenty of water. Do not allow to enter sewers/ surface or ground water.
Methods and material for containment and cleaning up: Absorb with liquid - binding material (sand, diatomite, acid binders, universal binders, sawdust). Dispose contaminated material as waste according to Section XIII.
Reference to other sections:
See Section VII for information on safe handling.
See Section VIII for information on personal protection equipment.
See Section XIII for disposal information.

VII. HANDLING/STORAGE

Precautions for safe handling: No special measures required.
Information about protection against explosions and fires: No special measures required.
Conditions for safe storage, including any incompatibilities: No special conditions.
Storage requirements to be met by storerooms and receptacles: No special requirements.
Information about storage in one common storage facility: Not required.
Further information about storage conditions: None.
Specific end use(s): No further relevant information available

VIII. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Additional information about design of technical systems: No further data.
Control parameters·
Components with limit values that require monitoring at the workplace: Proprietary Reagent RF I: WEL () Short-term value: 20 mg/m³, Long-term value:10 mg/m³ 56-81-5 glycerol: WEL () Long -term value: 10 mg/m³,
Additional information: The lists that were valid during the creation were used as basis.
Exposure controls
Personal protective equipment
General protective and hygienic measures precautionary measures should be adhered to when handling chemicals.
Breathing equipment:

Protection of hands: Protective gloves.
Material of gloves: Synthetic gloves.
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: Safety glasses

IX. PHYSICAL AND CHEMICAL PROPERTIES

Form: Solution
Colour: Colourless
Odour: Odourless. **Odour threshold:** Not determined.
pH-value: Not determined.
Melting point/Melting range: undetermined
Boiling point/Boiling range: 100°C
Flash point: Not applicable.
Flammability (solid, gaseous): Not applicable.
Ignition temperature: Not determined.
Decomposition temperature: Not determined.
Self-igniting: Product is not self igniting.
Danger of explosion: Product does not present an explosion hazard.
Explosion limits: Not determined
Vapour pressure at 20°C: 23 hPa
Density: Not determined
Relative density: Not determined.
Vapour density: Not determined.
Evaporation rate: Not determined.
Solubility in / Miscibility with Water: Fully miscible
Segregation coefficient (n-octanol/water): Not determined.
Viscosity dynamic: Not determined.
Kinematic: Not determined.
Solvent content: Water
Other information: No further relevant information available.

X. STABILITY AND REACTIVITY

Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
Possibility of hazardous reactions: No dangerous reactions known.
Conditions to avoid: No further relevant information available.
Incompatible materials: No further relevant information available.
Hazardous decomposition products: No dangerous decomposition products known

XI. TOXICOLOGICAL INFORMATION

Acute toxicity: LD/LC50 values that are relevant for classification: 126-33-0, sulfolane LD50 Oral -mouse -1,900 mg/kg, LD50 Dermal -rat -> 3,800 mg/kg
Primary irritant effect:
On the skin: May be harmful if absorbed through skin. May cause skin irritation.
On the eye: Mild irritating effect (rabbit).
Sensitization: No sensitizing effects known.
Potential health effects
Inhalation: May be harmful if inhaled. May cause respiratory tract irritation.
Ingestion: Harmful if swallowed.
Additional toxicological information: The product is not subject to classification according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version: When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

XII. ECOLOGICAL INFORMATION

Acquatic 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 1 (German Regulation) (Self-assessment): slightly hazardous for water. Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Results of PBT and vPvB assessment: PBT: Not applicable. vPvB: Not applicable.
Other adverse effects: No further relevant information available.

XIII. DISPOSAL CONSIDERATIONS

Waste treatment methods
Recommendation: Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
Uncleaned packagings: Recommendation: Disposal must be made according to official regulations.
Recommended cleansing agent: Water, if necessary with cleansing agents

XIV. TRANSPORT INFORMATION

Maritime transport IMDG
Marine pollutant: No
Special precautions for user: Not applicable.
Transport/Additional information: Not dangerous according to the above specifications.
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: Not applicable.

XV. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture
National regulations·
Technical instructions (air): Class Share in % NK 10-20
Water hazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.
Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

XVI. OTHER INFORMATION

MSDS has been prepared in accordance with EC Directive 91/155 EC Date: 01/08/10. We believe the information herein is correct as of the date hereof but we do not provide a warranty of any kind. The purchaser of highQu product is responsible himself for ensuring that, where applicable, existing laws and guidelines are observed.
highQu GmbH is not liable for any damage resulting from improper handling or from contact with the products. Special permission has been granted in accordance with EU Directive 88/379, Article 9, which permit small packages of up to 125 ml or containing materials that are harmful to health or irritant to be unlabeled with the hazard identification information given in the safety data sheet.

Product Application: laboratory chemicals, research use only (RUO)

Material Safety Data Sheet

Prepared according to EC Directive 91/155 EC Date: 01/08/10

PRODUCT NAME	CATALOGUE NUMBERS	COMPONENTS
1Step RT PCR Kit	**RTK02XX**	**1. 1Step RT PCR Mastermix, 2X** **2. RT2 Mix, 20X (RNase Inhibitor+RTase)** **3. PCR Water**
	XX – can be different numbers/letters depending on product sizes	

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II. HAZARDS IDENTIFICATION

Component: 2.

RT2 Mix, 20X (RNase Inhibitor + RTase)

Classification according to Regulation (EC) No 1272/2008: The product is not classified according to the CLP regulation.
Classification according to Directive 67/548/EEC or Directive 1999/45/EC: Void
Information concerning particular hazards for human and environment: The product does not have 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 was made according to the latest editions of the EU lists, and expanded upon from company and literature data.
Labelling according to EU guidelines: Observe the general safety regulations when handling chemicals. The product is not subject to identification regulations under EU Directives and the Ordinance on Hazardous Materials (GefStoffV).
Safety phrases: 35 This material and its container must be disposed of in a safe way.
Other hazards: Results of PBT and vPvB assessment
PBT: Not applicable. **vPvB:** Not applicable.

III. COMPOSITION/INGREDIENT INFORMATION

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

- CAS: 56-81-5, EINECS: 200-289-5 glycerol 10-50%

Additional information: Components not listed here are not hazardous or their concentrations do not exceed the limits specified in the OSHA Hazard Communication Standard 29 CFR 1910.1200.

IV. FIRST AID MEASURES

General information: No special measures required.
After inhalation: Supply fresh air; consult doctor in case of complaints.
After skin contact: Generally the product does not irritate the skin.
After eye contact: Rinse opened eye for several minutes under running water.
After swallowing: Induce vomiting and call for medical help.
Information for doctor, most important symptoms and effects, both acute and delayed: No further relevant information available.
Indication of any immediate medical attention and special treatment needed: No further relevant information available.

V. FIREFIGHTING MEASURES

Suitable extinguishing agents: CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
Special hazards arising from the substance or mixture: No further relevant information available.
Protective equipment: No special measures required.

VI. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Not required.
Environmental precautions: Dilute with plenty of water. Do not allow to enter sewers/ surface or ground water.
Methods and material for containment and cleaning up: Absorb with liquid - binding material (sand, diatomite, acid binders, universal binders, sawdust). Dispose contaminated material as waste according to Section XIII.
Reference to other sections:
See Section VII for information on safe handling.
See Section VIII for information on personal protection equipment.
See Section XIII for disposal information.

VII. HANDLING/STORAGE

Precautions for safe handling: No special measures required.
Information about protection against explosions and fires: No special measures required.
Conditions for safe storage, including any incompatibilities: No special conditions.
Storage requirements to be met by storerooms and receptacles: No special requirements.
Information about storage in one common storage facility: Not required.
Further information about storage conditions: None.
Specific end use(s): No further relevant information available

VIII. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Additional information about design of technical systems: No further data.
Control parameters·
Components with limit values that require monitoring at the workplace: 56-81-5 glycerol: WEL () Long -term value: 10 mg/m³
Additional information: The lists that were valid during the creation were used as basis.
Exposure controls
Personal protective equipment
General protective and hygienic measures: The usual precautionary measures should be adhered to when handling chemicals.

Breathing equipment: Not required.
Protection of hands: Protective gloves.
Material of gloves: Synthetic gloves.
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: Safety glasses

IX. PHYSICAL AND CHEMICAL PROPERTIES

Form: Solution
Colour: Colourless
Odour: Odourless. **Odour threshold:** Not determined.
pH-value: Not determined.
Melting point/Melting range: undetermined
Boiling point/Boiling range: 100°C
Flash point: Not applicable.
Flammability (solid, gaseous): Not applicable.
Ignition temperature: Not determined.
Decomposition temperature: Not determined.
Self-igniting: Product is not self igniting.
Danger of explosion: Product does not present an explosion hazard.
Explosion limits: Not determined
Vapour pressure at 20°C: 23 hPa
Density: Not determined
Relative density: Not determined.
Vapour density: Not determined.
Evaporation rate: Not determined.
Solubility in / Miscibility with Water: Fully miscible
Segregation coefficient (n-octanol/water): Not determined.
Viscosity dynamic: Not determined.
Kinematic: Not determined.
Solvent content: Water
Other information: No further relevant information available.

X. STABILITY AND REACTIVITY

Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
Possibility of hazardous reactions: No dangerous reactions known.
Conditions to avoid: No further relevant information available.
Incompatible materials: No further relevant information available.
Hazardous decomposition products: No dangerous decomposition products known

XI. TOXICOLOGICAL INFORMATION

Acute toxicity: LD/LC50 values that are relevant for classification: No special data available.
Primary irritant effect:
On the skin: No effects known.
On the eye: No effects known.
Sensitization: No effects known.
Potential health effects
Inhalation: No effects known.
Ingestion: No effects known.
Additional toxicological information: The product is not subject to classification according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version: When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

XII. ECOLOGICAL INFORMATION

Acquatic 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 1 (German Regulation) (Self-assessment): slightly hazardous for water. Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Results of PBT and vPvB assessment: PBT: Not applicable. vPvB: Not applicable.
Other adverse effects: No further relevant information available.

XIII. DISPOSAL CONSIDERATIONS

Waste treatment methods
Recommendation: Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
Uncleaned packagings: Recommendation: Disposal must be made according to official regulations.
Recommended cleansing agent: Water, if necessary with cleansing agents

XIV. TRANSPORT INFORMATION

Maritime transport IMDG
Marine pollutant: No
Special precautions for user: Not applicable.
Transport/Additional information: Not dangerous according to the above specifications.
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: Not applicable.

XV. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture
National regulations·
Technical instructions (air): Class Share in % NK 10-20
Water hazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.
Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

XVI. OTHER INFORMATION

MSDS has been prepared in accordance with EC Directive 91/155 EC Date: 01/08/10. We believe the information herein is correct as of the date hereof but we do not provide a warranty of any kind. The purchaser of highQu product is responsible himself for ensuring that, where applicable, existing laws and guidelines are observed.
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PRODUCT NAME	CATALOGUE NUMBERS	COMPONENTS
1Step RT PCR Kit	**RTK02XX**	**1. 1Step RT PCR Mastermix, 2X** **2. RT2 Mix, 20X (RNase Inhibitor+RTase)** **3. PCR Water**
	XX – can be different numbers/letters depending on product sizes	

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II. HAZARDS IDENTIFICATION

Component: 3.

PCR Water

Classification according to Regulation (EC) No 1272/2008: The product is not classified according to the CLP regulation.
Classification according to Directive 67/548/EEC or Directive 1999/45/EC: Void
Information concerning particular hazards for human and environment: The product does not have 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 was made according to the latest editions of the EU lists, and expanded upon from company and literature data.
Labelling according to EU guidelines: Observe the general safety regulations when handling chemicals. The product is not subject to identification regulations under EU Directives and the Ordinance on Hazardous Materials (GefStoffV).
Safety phrases: Not applicable.
Other hazards: Results of PBT and vPvB assessment
PBT: Not applicable. **vPvB:** Not applicable.

III. COMPOSITION/INGREDIENT INFORMATION

Chemical characterization: Water
Dangerous components:

- None

Additional information: Components not listed here are not hazardous or their concentrations do not exceed the limits specified in the OSHA Hazard Communication Standard 29 CFR 1910.1200.

IV. FIRST AID MEASURES

General information: No special measures required.
After inhalation: No special measures required.
After skin contact: Generally the product does not irritate the skin.
After eye contact: No special measures required.
After swallowing: No special measures required.
Information for doctor, most important symptoms and effects, both acute and delayed: No further relevant information available.
Indication of any immediate medical attention and special treatment needed: No further relevant information available.

V. FIREFIGHTING MEASURES

Suitable extinguishing agents: No special measures required.
Special hazards arising from the substance or mixture: No further relevant information available.
Protective equipment: No special measures required.

VI. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Not required.
Environmental precautions: No special measures required.
Methods and material for containment and cleaning up: No special measures required.
Reference to other sections:
See Section VII for information on safe handling.
See Section VIII for information on personal protection equipment.
See Section XIII for disposal information.

VII. HANDLING/STORAGE

Precautions for safe handling: No special measures required.
Information about protection against explosions and fires: No special measures required.
Conditions for safe storage, including any incompatibilities: No special conditions.
Storage requirements to be met by storerooms and receptacles: No special requirements.
Information about storage in one common storage facility: Not required.
Further information about storage conditions: None.
Specific end use(s): No further relevant information available

VIII. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Additional information about design of technical systems: No further data.
Control parameters·
Components with limit values that require monitoring at the workplace: None
Additional information: The lists that were valid during the creation were used as basis.
Exposure controls
Personal protective equipment
General protective and hygienic measures: The usual precautionary measures should be adhered to when handling chemicals.
Breathing equipment: Not required.

Protection of hands: No special measures required.
Eye protection: No special measures required.

IX. PHYSICAL AND CHEMICAL PROPERTIES

Form: Solution
Colour: Colourless
Odour: Odourless. **Odour threshold:** Not determined.
pH-value: Not determined.
Melting point/Melting range: undetermined
Boiling point/Boiling range: 100°C
Flash point: Not applicable.
Flammability (solid, gaseous): Not applicable.
Ignition temperature: Not determined.
Decomposition temperature: Not determined.
Self-igniting: Product is not self-igniting.
Danger of explosion: Product does not present an explosion hazard.
Explosion limits: Not determined
Vapour pressure at 20°C: 23 hPa
Density: Not determined
Relative density: Not determined.
Vapour density: Not determined.
Evaporation rate: Not determined.
Solubility in / Miscibility with Water: Fully miscible
Segregation coefficient (n-octanol/water): Not determined.
Viscosity dynamic: Not determined.
Kinematic: Not determined.
Solvent content: Water
Other information: No further relevant information available.

X. STABILITY AND REACTIVITY

Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
Possibility of hazardous reactions: No dangerous reactions known.
Conditions to avoid: No further relevant information available.
Incompatible materials: No further relevant information available.
Hazardous decomposition products: No dangerous decomposition products known

XI. TOXICOLOGICAL INFORMATION

Acute toxicity: LD/LC50 values that are relevant for classification: No special data available.
Primary irritant effect:
On the skin: No effects known.
On the eye: No effects known.
Sensitization: No effects known.
Potential health effects
Inhalation: No effects known.
Ingestion: No effects known.
Additional toxicological information: The product is not subject to classification according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version: When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

XII. ECOLOGICAL INFORMATION

Aquatic toxicity: No further relevant information available.
Persistence and degradability: No further relevant information available.
Behavior in environmental systems. Bio accumulative potential: No further relevant information available.
Mobility in soil: No further relevant information available.
Additional ecological information. General notes: No hazardous effects for water.
Results of PBT and vPvB assessment: PBT: Not applicable. vPvB: Not applicable.
Other adverse effects: No further relevant information available.

XIII. DISPOSAL CONSIDERATIONS

Waste treatment methods
Recommendation: Must not be disposed of together with household garbage.
Uncleaned packagings: Recommendation: Disposal must be made according to official regulations.
Recommended cleansing agent: Water

XIV. TRANSPORT INFORMATION

Maritime transport IMDG
Marine pollutant: No
Special precautions for user: Not applicable.
Transport/Additional information: Not dangerous according to the above specifications.
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: Not applicable.

XV. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture
National regulations·
Technical instructions (air): Class Share in % NK 10-20
Water hazard class: No hazard.
Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

XVI. OTHER INFORMATION

MSDS has been prepared in accordance with EC Directive 91/155 EC Date: 01/08/10. We believe the information herein is correct as of the date hereof but we do not provide a warranty of any kind. The purchaser of highQu product is responsible himself for ensuring that, where applicable, existing laws and guidelines are observed.
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