



Material Data Sheet *RNAGEM™*

SECTION 1: PRODUCT

Product Name: *RNAGEM™* family
Generic Name: NA
Synonyms: NA
Product Description: Nucleic acid extraction kit. For research use only
CAS # NA – mixture
Date of Revision: January 12, 2010
Company Support: Email: support@zygem.com

SECTION 2: HAZARD IDENTIFICATION

Emergency Overview: Appearance: Two or Three separate clear liquids. **Warning!** May be irritating to eyes, skin, digestive tract or respiratory tract. For *in vitro* use only.

| | |
|---------------------|---|
| HMIS HEALTH | 1 |
| HMIS FLAMMABILITY | 0 |
| HMIS REACTIVITY | 0 |
| PERSONAL PROTECTION | C |

OSHA Regulatory Status: This material is **not** considered hazardous under the OSHA standard or WHMIS.

Potential Health Effects:

Inhalation: Inhalation of liquid or mist may be irritating to the respiratory tract.
Ingestion: May cause irritation of the digestive tract.
Skin Contact: May cause skin irritation.
Eye Contact: May cause eye irritation.
Chronic Exposure: Repeated or prolonged exposure may cause allergic reactions in sensitive individuals.
Aggravation of Preexisting Conditions: No information available.
Target Organs: No information available.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

| Product: | Catalog codes | Total solution volume per kit | Kit Includes: |
|----------------------------|---------------|-------------------------------|---|
| <i>RNAGEM™</i> Tissue | RTI0050 | 2.05ml | • <i>RNAGEM™</i> Enzyme solution |
| | RTI0050 | 2.10ml | • Buffer SILVER solution |
| | RTI0050 | 16.50ml | • TE Buffer solution |
| <i>RNAGEM™</i> Tissue PLUS | RTP0050 | 4.52ml | • <i>RNAGEM™</i> Enzyme solution |
| | RTP0100 | 4.55ml | • Buffer SILVER solution |
| | RTP0500 | 18.270ml | • TE Buffer solution • DNase I powder • Enzyme re-suspension buffer • DNase reaction buffer • EDTA solution |

Non-hazardous components may or may not be listed. Carcinogens are listed when present at 0.1% or more; components which are otherwise hazardous according to OSHA are listed when present at 1.0% or more. This is not intended to be complete compositional disclosure. See Section 15 for applicable states right to know and other regulatory information.

SECTION 4: FIRST AID MEASURES

| | |
|----------------------------|---|
| Inhalation: | Remove to fresh air. Not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention. |
| Ingestion: | Drink several glasses of water or milk. Never give anything by mouth to an unconscious person. Get medical attention. |
| Skin: | Immediately flush skin with plenty of water for at least 15 minutes. Get medical attention if irritation develops. |
| Eyes: | Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately. |
| Note to Physicians: | N/A |

SECTION 5: Fire Fighting Measures

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| Fire: | Flash point: Not flammable. |
| Explosion: | Not considered an explosion hazard. |
| Extinguishing Media: | Use appropriate media for the surrounding fire. |
| Special Precautions: | In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode. |
| NFPA Rating: | Health - 1 Flammability -01 Reactivity - 0 Other – NA |

SECTION 6: ACCIDENTAL RELEASE MEASURES

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Collect liquid in an appropriate container or absorb with an inert material (e. g., vermiculite, dry sand, earth), and place in a chemical waste container. Wash contaminated area with plenty of water.

SECTION 7: HANDLING AND STORAGE

Keep in a tightly closed container. This product can be stored at 4°C. Once opened store at -20°C. Protect material from long-term exposure to light. Short periods of exposure to light are acceptable.

SECTION 8: EXPOSURE CONTROL/ PERSONAL PROTECTION

| | |
|----------------------------------|---|
| Exposure Guidelines: | No exposure limits established for contained materials. |
| Skin and body Protection: | lightweight protective clothing. Wear protective gloves and handle in accordance with good industrial hygiene and safety practice |
| Eye Contact: | Safety glasses with side-shields. |
| Inhalation: | In case of insufficient ventilation wear suitable respiratory equipment. |
| Engineering Controls: | Ensure adequate ventilation. |

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | All buffer solutions | RNAGEM™ Enzyme solution | EDTA solution |
|-------------------------|----------------------|-------------------------|---------------|
| Appearance | Clear liquid | Clear liquid | Clear liquid |
| Melting Point | < 0°C | < 0°C | <0°C |
| Boiling Point | > 100°C | > 100°C | > 100°C |
| Specific Gravity (g/mL) | About 1.0 | About 1.0 | About 1.0 |
| pH | 8.3 | About 7.0 | About 7.0 |
| Solubility in water | Complete | Complete | Complete |

SECTION 10: STABILITY AND REACTIVITY

| | |
|--|---|
| Chemical Stability: | This product is stable in closed containers at room temperature. |
| Hazardous Decomposition Products: | Carbon oxides (CO, CO ₂), nitrogen oxides (NO, NO ₂ , N ₂ O), hydrogen chloride |
| Incompatibilities: | Strong oxidizers, heat |
| Conditions to Avoid: | Incompatible materials, combustible materials. |

SECTION 11: TOXICOLOGICAL INFORMATION

Acute Dose Effects: All components are very dilute.
Carcinogenicity: Not listed by OSHA, NTP or IARC.

SECTION 12: ECOLOGICAL INFORMATION

Environmental Fate: This product is not expected to bioaccumulate. When released into water or air its expected half-life is 1- 10 days.
Ecotoxicity: Dilute nature and small volumes of products makes any ecological effect highly unlikely.

SECTION 13: DISPOSAL CONSIDERATIONS

As a waste, this material in its raw form IS NOT considered a HAZARDOUS WASTE under RCRA (29 CFR 261).

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

SECTION 14: TRANSPORT INFORMATION

Proper Shipping Name: Not regulated by DOT, TDG, IATA, IMDG
DOT Hazard Class: N/A
UN Number: N/A
Packing Group: N/A
CERCLA Reportable Quantity (RQ): N/A

Releases exceeding the reportable quantity (RQ) must be reported to the National Response Center **(800) 424-8802**.

This data provided for information only. The description shown may not apply to all shipping situations. Consult 49 CFR, or appropriate regulations to properly classify your shipment for transportation.

SECTION 15: REGULATORY INFORMATION

TSCA Chemical Inventory: All of the chemicals in this product are listed on the TSCA Inventory.

TSCA Sec 4 Chemical Test Rule: None of the chemicals in this product are under a Chemical Test Rule.

TSCA Sec 8(d): None of the chemicals in this product are on the Health and Safety Reporting List.

TSCA Sec 12(b) Notices of Export: None of the chemicals in this product are on this list.

TSCA Significant New Use Rule (SNUR): None of the chemicals in this product are on this list.

SARA Sec 302 (EHS) TPQ: None of the chemicals in this product have a TPQ.

SARA Sec 302 (EHS) RQ: None of the chemicals in this product have a RQ.

SARA Sec 311/312: Acute – NO; Chronic – NO; Fire – NO; Release of Pressure – NO; Reactivity – NO

SARA 313 List: No materials in this product are reportable under Section 313 Title III and 40 CFR Part 372.

CERCLA Hazardous Substances and corresponding RQs: N/A

RCRA: None of the chemicals in this product are on this list.

Clean Air Act: Hazardous Air Pollutants? NO **Class 1 Ozone Depletors?** NO **Class 2 Ozone Depletors?** NO

Clean Water Act: Hazardous Substance? NO **Priority Pollutant?** NO **Toxic Pollutant?** NO

Chemical Weapons Convention: None of the chemicals in this product are on this list.

Drug Enforcement Agency (DEA) CDTA: None of the chemicals in this product are on this list.

OSHA: None of the chemicals in this product are considered Highly Hazardous by OSHA.

State Right-to-Know Lists: None of the materials in this product are found on the Right-to-Know lists of California, Florida, New Jersey, Pennsylvania, Massachusetts or Minnesota.

Canada

All materials are listed on Canada's DSL List. One compound is listed on Canada's Ingredient Disclosure List, but below the *de minimus* concentration.

WHMIS: Not WHMIS controlled.

This product has been classified in accordance with the hazard criteria of the **Controlled Products Regulations** and the MSDS contains all the information required by the **Controlled Products Regulations**.

European Union

Hazard Symbols: XI

Risk Phrases: R36/38- Irritating to eyes and skin.

Safety Phrases: S1/2 Keep locked up and out of the reach of children.

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 37/39 Wear suitable gloves and eye/face protection.

S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S46 If swallowed, seek medical advice immediately and show this container or label.

SECTION 16: OTHER INFORMATION

Abbreviations and acronyms used:

| | | | |
|--------|---|-------|---|
| ACGIH | American Conference of Governmental Industrial Hygienists | NA | not applicable, not available |
| ANSI | American National Standards Institute | NIOSH | National Institute for Occupational Safety and Health |
| atm | atmosphere (pressure unit) | ND | not determined |
| BOD | biological oxygen demand | NFPA | National Fire Prevention Association |
| CAS | Chemical Abstracts Service | NTP | National Toxicology Program |
| CC | closed cup | OC | open cup |
| CDTA | Chemical Drug and Trafficking Act | OSHA | Occupational Safety and Health Administration |
| COC | Cleveland Open Cup | Part | partition |
| COD | chemical oxygen demand | PEL | permissible exposure limits |
| coeff. | coefficient | ppb | parts per billion |
| CFR | Code of Federal Regulations | PPE | personal protective equipment |
| CPR | cardio-pulmonary resuscitation | ppm | parts per million |
| DEA | Drug Enforcement Agency | psi | pounds per square inch |
| DOT | Department of Transportation | RCRA | Resource Conservation and Recovery Act |
| FDA | Food and Drug Administration | RQ | Reportable quantity |
| IARC | Internat'l Agency for Research on Cancer | RTK | Right to Know |
| IDLH | immediate danger to life and health | SARA | Superfund Amendments and Reauthorization Act |
| kg | kilogram | STEL | short-term exposure limit |
| L | liter | TCC | Tagliabue Closed Cup |
| LC50 | median lethal concentration | TPQ | threshold planning quantity |
| LD50 | median lethal dose | TQ | threshold quantity |
| LEL | lower explosive limit | TSCA | Toxic Substances Control Act |
| mg | milligram | TWA | time-weighted average |
| mL | milliliter | WHMIS | Workplace Hazardous Materials Information System |

This document was prepared in accordance with 29 CFR 1910.1200 and ANSI Z400.1-2004.

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