

SAFETY DATA SHEET

1. IDENTIFICATION

PRODUCT IDENTIFIER

Product Name:

T-REZ R series

Synonyms:

T-REZ RA100, T-REZ RB093, T-REZ RB100, T-REZ RC093,
T-REZ RC100, T-REZ RC115, T-REZ RD104, T-REZ RE100,
TR0001, TR0002i

SUPPLIER'S DETAILS

Name

ENEOS Materials Corporation

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Contact

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(Available time; 9:00am - 5:00pm JST on Monday - Friday)

RECOMMENDED USE OF THE CHEMICAL AND RESTRICTIONS OF USE

Tackifier resin/Adhesive component, Road marking
Industrial use only. Do not use for medical or food without advice of experts.

2. HAZARDS IDENTIFICATION

This material is not hazardous according to regulatory guidelines (see SDS Section 15).

OTHER HAZARDS WHICH DO NOT RESULT IN CLASSIFICATION:

Physical/Chemical Hazards

Contact with hot material can cause thermal burns which may result in permanent damage.

May form combustible dust concentrations in air (during processing/handling). Material can accumulate static charges which may cause an ignition. Ignition on material dust can cause dust explosion.

Spilled pellets present a slipping hazard on hard surfaces.

Health Hazards

If dust is generated, it could scratch the eyes and cause minor irritation to the respiratory tract.

When heated, the vapors/fumes given off may cause eye and respiratory tract irritation. Excessive exposure may result in skin irritation.

Environmental Hazards

No additional hazards.

Note: When heated, exposure for material fume given off may result in eye, nose, skin, or lung irritation.
Contact with hot molten material can cause thermal burns.
Excessive exposure of dust could scratch the eyes and cause minor irritation to the respiratory tract.

This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

3. COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as a substance.

No Hazardous Substance(s) or Complex Substance(s) required for disclosure.

Note: The product may contain varying levels of additives such as slip and antiblocking agents, antioxidants and stabilizers.

4. FIRST-AID MEASURES

DESCRIPTION OF NECESSARY FIRST-AID MEASURE

Inhalation

Remove from further exposure. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation. When mouth-to-mouth resuscitation, responder should be careful to not expose material. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection.

Skin contact

If burned by contact with hot material, molten material adhering to skin should be cooled as quickly as possible with water, and see a physician for removal of adhering material and treatment of burn.

Eye contact

Flush thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical attention.

Ingestion

No adverse effects due to ingestion are expected.

MOST IMPORTANT SYMPTOMS/EFFECTS, ACUTE AND DALAY

Exposure for material fume given off on heating may result in eye, skin, or respiratory irritation. Contact with hot material can cause thermal burns.

INDICATION OF MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED, IF NECESSARY

None

5. FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA

Suitable Extinguishing Media: Foam, dry chemical, carbon dioxide (CO₂), plenty of water

Inappropriate Media: None

SPECIFIC HAZARDS ARISING FROM THE CHEMICALS

Specific Hazards Arising from the Chemicals: May form combustible dust. Fine dust dispersed in air in sufficient concentration and in the presence of an ignition source is a potential dust explosion hazard.

Hazardous Combustion Products: Incomplete combustion products, carbon monoxide, smoke, fume

SPECIFIC PROTECTIVE ACTIONS FOR FIRE-FIGHTERS

Specific protective actions for fire-fighter:

Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Fire Fighting Instructions:

Evacuate non-emergency personal to safe area. Extinguish fire with appropriate media. Stop leak if you can do it without risk. Move container if you can do it without risk. Use water spray or fog for cooling tanks or containers surround fire. If a leak or spill has not ignited, use water spray to disperse the vapors and to protect personnel attempting to stop a leak or to move container. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Avoid contact with spilled material. Warn or evacuate occupants in surrounding and downwind areas if required due to toxicity or flammability of the material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

For emergency responders: Respiratory protection: half-face or full-face respirator with filter(s) for spilled material and, when applicable, Self Contained Breathing Apparatus (SCBA) can be used depending on the size of spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended.

If contact with hot material is likely, thermally protective work gloves are recommended. Chemical goggles are recommended if splashes or contact with eyes is possible. Small spills: normal antistatic work clothes are usually adequate. Large spills: full body suit of antistatic material is recommended.

Notification Procedures

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. Material is combustible. Evacuate non-emergency personal to safe area.

ENVIRONMENTAL PRECAUTIONS

No additional information

METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP

Land Spill: Spilled pellets present a slipping hazard on hard surfaces. Prevent dust cloud. Small Dry Spills: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area.

Water Spill: Stop leak if you can do it without risk. Material will sink. Consult an expert. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming. Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

7. HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING

Material may generate dust. Minimize dust generation and accumulation. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Dust from material can accumulate electrostatic charges due to friction from transfer and mixing operations and cause an electrical spark (ignition source). Provide adequate precautions to ignition sources, such as electrical grounding and bonding, inert atmosphere or non-sparking tools. However, bonding and grounds may not eliminate the hazard for static accumulation. Consult local applicable standards for guidance.

Material can generate combustible dust during transportation and handling. When transfer material into another container, pay attention not to generate dust. Material can accumulate static charges. Protect material from direct sunlight. Care should be taken when storing and handling this product. Apart from the specific nature of the polymer product, conditions such as humidity, sunlight, and temperature have an influence on the way the product behaves during storage and handling. Special attention should be paid to avoid inappropriate stacking of palletized bags or other package units. Indeed, polymer products may be dimensionally unstable under certain conditions. Avoid conditions generating heat during transfer operations.

Material can generate combustible dust during transportation and handling. When transfer container, pay attention to dust. Material can accumulate static charges.

Avoid contact with hot material.

CONDITION FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Store in a cool, dry place. Avoid storing material with 80 degrees C or less as softening point at 25 degrees C or more for long time. Avoid storing material with 80 - 90 degrees C or less as softening point at 30 degrees C or more for long time. The container choice, for example storage vessel, may effect static accumulation and dissipation.

Suitable Materials and Coatings (Chemical Compatibility): Paper, Stainless Steel, Steel, Teflon,

Polyester

Unsuitable Materials and Coatings: No additional information

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

CONTROL PARAMETERS

Occupational exposure limits/standards (Note: Exposure limits are not additive)

Substance Name	Form	Limit / Standard	NOTE	Source
Particles(insoluble or poor soluble) Not Otherwise Specified	Dust	TLV:3mg/m3(respirable particles), 10mg/m3(inhalable particles) ppm	-	ACGIH(2020)

Biological limit values

No biological limits allocated

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

APPROPRIATE ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider: Adequate ventilation should be provided so that exposure limits are not exceeded.

SPECIAL PRECAUTIONS: Should significant vapors/fumes be generated during thermal processing of this product, it is recommended that work stations be monitored for the presence of thermal degradation by-products which may evolve at elevated temperatures (for example, oxygenated components). Processors of this product should assure that adequate ventilation or other controls are used to control exposure. It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product are designed and maintained to minimize dust generation and accumulation. Ensure that dust-handling systems (such as exhaust ducts, dusts collectors, vessels, and processing equipment) are designed to minimize the potential for dust ignition and prevent explosion propagation.

INDIVIDUAL PROTECTION MEASURES, SUCH AS PERSONAL PROTECTIVE EQUIPMENT (PPE)

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage. Any specific protective equipment information provided is based on published literature and protective equipment manufacturer data.

Eye/Face Protection:

Chemical goggles are recommended.

Skin and Body Protection:

The types of clothing to be considered for this material include: If product is hot, thermally protective apron and long sleeves are recommended.

Respiratory Protection:

If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include: for mist/dust

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, if concentration is high, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection:

Use suitable protective glove. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be

considered for this material include:

When handling hot materials, thermally protective gloves are recommended. If contact with forearms is likely, wear gauntlet style gloves.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

9. PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

Physical State:	Solid
Colour:	Pale yellow
Odour:	None to Mild
Melting Point/Freezing Point:	No data (Softening Point 80°C – 120 °C)
Boiling Point or Initial Boiling Point and Boiling Range:	No data
Flammability :	Combustible solid
Lower and Upper Explosion Limit /Flammable Limits (Approximate volume % in air):	N/A
Flash Point:	N/A
Auto-ignition Temperature:	No data
Decomposition Temperature:	No data
pH:	N/A
Kinematic Viscosity:	N/A
Solubility:	Negligible
Partition Coefficient n-Octanol/Water (log value):	N/A
Vapor Pressure:	N/A
Density and/or Relative Density (at 20 °C):	0.95 – 1.02 g/cm ³ @25°C
Relative Vapour Density (Air = 1):	N/A

10. STABILITY AND REACTIVITY

REACTIVITY: No reactivity under normal conditions.

CHEMICAL STABILITY: Material is stable under normal conditions.

POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization or reaction will not occur.

CONDITIONS TO AVOID: Flame and high energy source of ignition.
Heating for long time

INCOMPATIBLE MATERIALS: Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.
In fire, carbon monoxide can be generated.

11. TOXICOLOGICAL INFORMATION

Information described here are based on the data for this material, structurally similar materials and/or components.

Information	Conclusion/Remarks
Acute toxicity	
Oral No data available (This material is hydrocarbon polymer, and it is not expected to be harmful.)	Classification not possible
Dermal No data available (This material is hydrocarbon polymer, and it is not expected to be harmful.)	Classification not possible
Inhalation (Dust) No data available (This material is hydrocarbon polymer, and it is not expected to be harmful.)	Classification not possible
Skin corrosion/irritation No data available	Classification not possible
Serious eye damage/irritation No data available	Classification not possible
Sensitization	
Respiratory No data available	Classification not possible
Skin No data available	Classification not possible
CMR hazard	
Germ cell mutagenicity No data available	Classification not possible
Carcinogenicity No data available	Classification not possible
Reproductive toxicity No data available	Classification not possible
Additional category for effects on or via lactation No data available	Classification not possible
Specific target organ toxicity	
Single exposure No data available	Classification not possible
Repeated exposure No data available	Classification not possible
Aspiration hazard This material is solid.	Not classified

OTHER INFORMATION
IARC Classification: None

12. ECOLOGICAL INFORMATION

Information described here are based on the data for this material, structurally similar materials and/or components.

TOXICITY

No information available for toxicity to aquatic organisms.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

No information available for biodegradation.

Hydrolysis:

Transformation due to hydrolysis not expected to be significant.

Photolysis:

Transformation due to photolysis not expected to be significant.

Atmospheric Oxidation:

No additional information

BIOACCUMULATION POTENTIAL

Expected that potential to bioaccumulate is low.

MOBILITY IN SOIL

Material -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

OTHER ADVERSE EFFECTS

Hazard to the Ozone Layer

Not expected to be harmful to ozone layer.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHODS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

Disposal Recommendations

Dispose of waste in an enclosed controlled burner (preferentially with energy recovery), or appropriate recycling methods in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Empty Container Warning

Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty containers should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably contractor and in accordance with governmental regulations.

14. TRANSPORT INFORMATION

LAND - Precautionary Transportation Measures & Conditions:

Comply with applicable laws and regulations.

SEA (IMDG) / AIR (IATA)

UN Number: -
UN Proper Shipping Name: -
Transport Hazard Class(es): -
Packing Group: -
Environmental hazards: No
EMS Number: -

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code :

Not applicable This product is not liquid substances.

15. REGULATORY INFORMATION

This material is not considered hazardous according to the Classification of Chemicals based on Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS SPECIFIC FOR THE PRODUCT IN QUESTION

National Laws and Regulations:

Comply with applicable laws and regulations.

16. OTHER INFORMATION

N/A = Not applicable

The information and recommendations contained herein are, to the best knowledge and belief of ENEOS Corporation, accurate and reliable as of the date issued. You can contact ENEOS Materials Corporation to insure that this document is the most current available from ENEOS Materials Corporation. The information and recommendations are offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted.