

## MATERIAL SAFETY DATA SHEET

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

#### 1.1 Product identifier

**Product name:** Maleic Acid Resin, Maleic modified glycerol ester of gum rosin, Glycerol ester of maleic rosin

**Chemical name:** Modified Rosin Esters

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Identified uses:** Industrial Chemical

**Uses advised against:** None known.

#### 1.3 Details of the supplier of the safety data sheet

##### Manufacturer / Supplier

PT. Nasco  
Jln. Medan-Binjai Km. 14 No. 61  
Deli Serdang, Indonesia

#### 1.4 Emergency telephone number:

For emergency health, safety, environmental and transportation information, call 62-61-8824167

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

The product has not been classified as hazardous according to the legislation in force.

##### Hazard summary

**Physical Hazards:** Not classified as hazardous.

##### Health Hazards

**Inhalation:** None known.

**Eye contact:** Molten material will produce thermal burns.

**Skin Contact:** Molten material will produce thermal burns.

**Ingestion:** None known.

**Other Health Effects:** None known.

**Environmental hazards:** None known.

**2.2 Label Elements** Not applicable

**2.3 Other hazards:** This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.  
None known.

## SECTION 3: Composition/information on ingredients

### 3.1 / 3.2 Substances / Mixtures

#### General information:

Chemical name	Concentration	Additional identification (CAS No)	Notes
Modified rosin esters	100%	94581-16-5	

Explanation for Notes (if applicable):

\* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

# This substance has workplace exposure limit(s).

PBT: persistent, bioaccumulative and toxic substance.

vPvB: very persistent and very bioaccumulative substance.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

**Inhalation:** Move to fresh air. Treat symptomatically. Get medical attention if symptoms persist.

**Eye contact:** Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses. Get medical attention if symptoms persist. If molten material contacts the eye, immediately flush with plenty of water for at least 15 minutes. Get medical attention immediately.

**Skin Contact:** Wash with soap and water. Get medical attention if symptoms occur. If burned by contact with hot material, cool molten material adhering to skin as quickly as possible with water, and see a physician for removal of adhering material and treatment of burn. Get medical attention.

**Ingestion:** Seek medical advice.

**4.2 Most important symptoms and effects, both acute and delayed:** Burns should be treated as thermal burns. The material will come off as healing occurs; therefore, immediate removal from the skin is not necessary.

#### 4.3 Indication of any immediate medical attention and special treatment needed

**Hazards:** Contact with molten substance/product may cause severe burns to skin and eyes.

**Treatment:** Treat symptomatically.

### SECTION 5: Firefighting measures

**General Fire Hazards:** Material can accumulate static charges which may cause an electrical spark (ignition source). Use proper bonding and/or grounding procedures.

#### 5.1 Extinguishing media

**Suitable extinguishing media:** Water spray. Dry chemical. Carbon Dioxide.

**Unsuitable extinguishing media:** None known.

**5.2 Special hazards arising from the substance or mixture:** Powdered material may form explosive dust-air mixtures.

#### 5.3 Advice for firefighters

**Special fire fighting procedures:** Minimize dust generation and accumulation.

**Special protective equipment for fire-fighters:** Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

### SECTION 6: Accidental release measures

**6.1 Personal precautions, protective equipment and emergency procedures:** Wear appropriate personal protective equipment.

**6.2 Environmental Precautions:** Not regarded as dangerous for the environment.

**6.3 Methods and material for containment and cleaning up:** Sweep up and place in a clearly labeled container for chemical waste.

**Notification Procedures:** In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

### SECTION 7: Handling and storage:

**7.1 Precautions for safe handling:** Avoid contact with molten material. Minimize dust generation and accumulation.

**7.2 Conditions for safe storage, including any incompatibilities:** Keep container closed.

7.3 Specific end use(s): Industrial Chemical

## SECTION 8: Exposure controls/personal protection

### 8.1 Control Parameters

#### Occupational Exposure Limits

Country specific exposure limits have not been established or are not applicable unless listed below.

### 8.2 Exposure controls

#### Appropriate engineering controls:

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

#### Individual protection measures, such as personal protective equipment

**General information:** Eye bath. Washing facilities.

**Eye/face protection:** It is a good industrial hygiene practice to minimize eye contact. Wear a face shield when working with molten material.

#### Skin protection

**Hand Protection:** It is a good industrial hygiene practice to minimize skin contact. When material is heated, wear gloves to protect against thermal burns.

**Other:** No data available.

**Respiratory Protection:** If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Respirator type: Air-purifying respirator with an appropriate, government approved (where applicable), air-purifying filter, cartridge or canister. Contact health and safety professional or manufacturer for specific information.

**Hygiene measures:** Observe good industrial hygiene practices.

**Environmental Controls:** No data available.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### Appearance

<b>Physical State:</b>	Solid
<b>Form:</b>	Pellet
<b>Color:</b>	Amber

<b>Odor:</b>	Slight
<b>Odor Threshold:</b>	Not determined.
<b>pH:</b>	No data available.
<b>Melting Point</b>	120-130 °C
<b>Boiling Point:</b>	No data available
<b>Flash Point:</b>	not applicable, combustible solid
<b>Evaporation Rate:</b>	Not determined.
<b>Flammability (solid, gas):</b>	No data available.
<b>Flammability Limit - Upper (%)-:</b>	No data available.
<b>Flammability Limit - Lower (%)-:</b>	No data available.
<b>Vapor pressure:</b>	Not determined.
<b>Vapor density (air=1):</b>	No data available.
<b>Specific Gravity:</b>	> 1
<b>Solubility(ies)</b>	
<b>Solubility in Water:</b>	Negligible
<b>Solubility (other):</b>	No data available.
<b>Partition coefficient (n-octanol/water):</b>	No data available.
<b>Autoignition Temperature:</b>	No data available.
<b>Decomposition Temperature:</b>	Thermal stability not tested. Low stability hazard expected at normal operating temperatures.
<b>Dynamic Viscosity:</b>	No data available.
<b>Kinematic viscosity:</b>	Not determined.
<b>Explosive properties:</b>	No data available.
<b>Oxidizing properties:</b>	No data available.

## SECTION 10: Stability and reactivity

<b>10.1 Reactivity:</b>	None known.
<b>10.2 Chemical Stability:</b>	Stable
<b>10.3 Possibility of Hazardous Reactions:</b>	None known.
<b>10.4 Conditions to Avoid:</b>	None at ambient temperatures.
<b>10.5 Incompatible Materials:</b>	Strong oxidizing agents.
<b>10.6 Hazardous Decomposition Products:</b>	Carbon Monoxide. Carbon Dioxide.

## SECTION 11: Toxicological information

### Information on likely routes of exposure

<b>Inhalation:</b>	None known.
<b>Ingestion:</b>	None known.

**Skin Contact:** Molten material will produce thermal burns.

**Eye contact:** Molten material will produce thermal burns.

## 11.1 Information on toxicological effects

### Acute Toxicity

#### Oral

**Product:** No data available.

#### Dermal

**Product:** No data available.

#### Inhalation

**Product:** No data available.

#### Repeated Dose Toxicity

**Product:** No data available.

#### Skin Corrosion/Irritation:

**Product:** No data available.

#### Serious Eye Damage/Eye Irritation:

**Product:** No data available.

#### Respiratory or Skin Sensitization:

**Product:** No data available.

#### Specified substance(s)

May cause an allergic skin reaction.

### Mutagenicity

#### In vitro

**Product:** No data available.

#### Specified substance(s)

pentaerythritol ester of rosin

Mutagenicity - Mammalian, : negative +/- activation  
Chromosomal aberration, : negative +/- activation  
Mutagenicity - Bacterial, : negative +/- activation

#### In vivo

**Product:** No data available.

### Carcinogenicity

**Product:** No data available.

### Reproductive Toxicity Toxicity to reproduction

**Product:** No data available.

**Developmental Toxicity**

**Product:** No data available.

**Specific Target Organ Toxicity - Single Exposure**

**Product:** No data available.

**Specific Target Organ Toxicity - Repeated Exposure**

**Product:** No data available.

**Aspiration Hazard**

**Product:** No data available.

**Other Adverse Effects:**

No data available.

## SECTION 12: Ecological information

**12.1 Toxicity**

No data available

**12.2 Persistence and degradability**

No data available

**12.3 Bioaccumulative potential**

No data available

**12.4 Mobility in soil**

No data available

**12.5 Results of PBT and vPvB assessment**

**Product:Assessment:**  
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

**12.6 Other adverse effects**

No data available

## SECTION 13: Disposal considerations

**13.1 Waste treatment methods**

**General information:** No data available.

**Disposal methods:** Dispose of waste and residues in accordance with local authority requirements. Incinerate.

## SECTION 14: Transport information

*Important Note: Shipping descriptions may vary based on mode of transport, quantities, package size, and/or origin and destination. Consult your company's Hazardous Materials/Dangerous Goods expert for information specific to your situation.*

*IMDG - International Maritime Dangerous Goods Code*

Class not regulated

*IATA*

Class not regulated

## SECTION 15: Regulatory information

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

TSCA (US Toxic Substances Control Act): This product complies with the requirements of the Toxic Substances Control Act.

DSL (Canadian Domestic Substances List) and CEPA (Canadian Environmental Protection Act): This product is listed on the DSL. Any impurities present in this product are exempt from listing.

AICS / NICNAS (Australian Inventory of Chemical Substances and National Industrial Chemicals Notification and Assessment Scheme): This product is listed on AICS or otherwise complies with NICNAS.

MITI (Japanese Handbook of Existing and New Chemical Substances): This product is listed in the Handbook or has been approved in Japan by new substance notification.

ECL (Korean Toxic Substances Control Act): This product is listed on the Korean inventory or otherwise complies with the Korean Toxic Substances Control Act.

Philippines Inventory (PICCS) : This product is listed on the Philippine Inventory or otherwise complies with PICCS.

Inventory of Existing Chemical Substances in China: All components of this product are listed on the Inventory of Existing Chemical Substances in China (IECSC).

## SECTION 16: Other information