



Material Safety Data Sheet

Section 1. Chemical Product and Company Identification

Product/Trade Name: ZONATAC® NG 98

Supplier/Manufacturer: Arizona Chemical Company
P.O. Box 550850
Jacksonville, FL32255-0850
USA
(800) 526-5294
(904) 928-8700

EMERGENCY PHONE: Chemtrec: 1-800-424-9300 (transportation and medical)

Chemical Name: Terpene Resin

Validation date: February 13, 2008

Section 2. Hazards Identification

EMERGENCY OVERVIEW:

- Product is a light yellow solid.
- This is a non-combustible, non-reactive solid material.
- Product may form explosive dust/air mixture if high concentration of product dust is suspended in air.
- Static electric charges created by emptying product from ungrounded containers in or near flammable vapors may cause flash fire.
- Inhalation of vapors/fumes generated by heating this product may cause respiratory irritation with throat discomfort, coughing or difficulty breathing.

POTENTIAL HEALTH EFFECTS:

Eye: Product may produce mild eye irritation but is not classified as an irritant by OSHA or GHS criteria. Dust or powder from the product may cause mechanical irritation. If heated, product can cause thermal burns and vapors may cause eye irritation.

Skin: Product may produce mild skin irritation but is not classified as an irritant by OSHA or GHS criteria. Product may have the potential to cause mild skin sensitization. If heated, product can cause thermal burns.

Inhalation: Inhalation of dusts may cause respiratory irritation. Inhalation of vapors/fumes generated by heating this product may cause respiratory irritation with throat discomfort, coughing and difficulty breathing.

Ingestion: Product is not toxic and ingestion is unlikely. If ingested, may produce mild gastrointestinal disturbances.

Section 3. Composition and Information on Ingredients

Name	CASRN/Trade Secret Number	Weight %
Modified Terpene Resin	Proprietary, NJTSRN-7332	>99.9

See section 8 for Exposure Controls/ Exposure Limits/Personal Protection information.

Section 4. First Aid Measures

Eye Contact: Immediately flush eyes with flooding amounts of cool, low-pressure water for at least 15 minutes. If hot/molten product contacts eye, flush with water for at least 15 minutes and seek medical attention immediately.

Skin Contact: In case of skin contact, wash immediately with soap and water. If irritation develops or persists, get medical attention. If hot product contacts skin, cool under running water and seek medical attention. Do not attempt to remove the hot, molten or cooled product from the skin.

Inhalation: Move person to non-contaminated air. If affected person is not breathing, apply artificial respiration. Seek medical attention.

Ingestion: If swallowed, contact a physician or poison control center immediately. DO NOT induce vomiting.

Notes to Physician: Provide general supportive measures and treat symptomatically. In case of ingestion, the decision of whether or not to induce vomiting should be made by the attending physician. If burn is present, treat as any thermal burn. Removing adhered product from burned skin may compromise the skin integrity and result in infection and/or more severe scarring.

****If victims of chemical over-exposure are taken for medical attention, give a copy of the label or MSDS to the physician/health professional.****

Section 5. Fire and Explosion Data

Flammability of Product: Nonflammable

Auto-Ignition Temperature: 386°C (726°F)

Flash Point: 216°C (420°F), (Setaflash Closed Cup)

Flammable Limits: Not available

General Fire Hazards: High concentration of airborne dust may form explosive mixture with air. Static electric charges created by emptying product from ungrounded containers in or near flammable vapors may cause flash fire. Product is not considered combustible. If heated above its flash point in the presence of air, product can support combustion.

Hazardous Decomposition Products: Smoke, carbon monoxide, carbon dioxide and other products of combustion.

Extinguishing Media: Carbon dioxide, dry chemical, or water.

Fire Fighting Equipment: Wear full protective clothing, including self-contained positive pressure or pressure demand breathing apparatus, helmet, protective clothing and face mask. Use water spray to cool fire-exposed containers and to protect personnel.

Section 6. Accidental Release Measures

Containment: Contain the discharged material. If airborne dust is generated, eliminate all sources of ignition that may come into contact with the dust.

Clean-up Procedures: Wear appropriate protective equipment and clothing during clean up. Avoid generation of dust during clean-up. Wear an approved respirator if dust is generated above exposure limits. Attempt to reclaim free product, if this is possible. Shovel material into appropriate container for disposal. Follow all Local, State, Federal and Provincial regulations for disposal.

Evacuation Procedures: Persons not wearing appropriate protective equipment should be excluded from area of spill until clean-up has been completed.

Special Instructions: Avoid contact with skin and eyes. Avoid skin contact with molten resins. Avoid inhalation of dust from spilled material. Avoid inhalation of fumes from molten product.

Section 7. Handling and Storage

Handling: Avoid eye and skin contact. Avoid breathing dusts from this material. Avoid breathing fumes if product is used at high temperatures. Maintain good housekeeping to prevent dust accumulation. Flaked or crushed material may cause a dust problem. If product is in dust form, it is classified as a dust explosion hazard class II. Handling of product in dust form should be in accordance with NFPA. If handling with flammable or combustible materials, the explosion hazard may increase. Avoid ignition sources such as sparks and flame. In addition, when emptying bags where flammable vapors may be present, blanket vessel with inert gas, assure proper grounding (NFPA 69 – Explosion Prevention Systems; NFPA 70 - National Electric Code; NFPA 77 – Recommended Practices on Static Electricity; NFPA 654 – Standard for the Prevention of Fire and Dust Explosions in the Chemical, Dye, Pharmaceutical and Plastics Industry), and pour material slowly into conductive grounded chutes. An explanation of dust explosions is available in Technical Bulletin #1. Please contact customer service to request a copy. Do not reheat product packaged in light metal containers. The light metal containers will not safely support the movement or transfer of the product in a hot, molten form. Do not chisel drums in areas where flammable liquids are stored or used. Wash thoroughly after handling. Never eat, drink or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet or applying cosmetics.

Storage: Store at ambient temperature and atmospheric pressure. Guard against dust accumulation of this material. Flaked or crushed product may be prone to oxidation, therefore control inventory – use oldest material first. Suggest stainless steel

construction for bulk storage.

Section 8. Exposure Controls/Personal Protection

Engineering Controls: Provide local exhaust and general ventilation systems to maintain airborne concentrations below OSHA, ACGIH, and manufacturer recommended exposure limits. Local exhaust ventilation is preferred because it prevents contaminant dispersion into work areas by controlling it at its source. Local exhaust ventilation is recommended when generating excessive levels of airborne dust or vapors from handling or thermal processing. Use electrically grounded, explosion-proof equipment for ventilation or any handling of this product.

Personal Protection

Eye/Face: Wear chemical goggles and face shield if handling molten material. Ensure compliance with OSHA's personal protective equipment (PPE) standard for eye and face protection, 29 CFR 1910.133.

Skin: Use impervious gloves. Work clothing sufficient to prevent all skin contact should be worn, such as coveralls and long sleeves. For heated/molten product, use any type thermal insulating gloves and other clothing as necessary to protect from thermal burns. Ensure compliance with OSHA's personal protective equipment (PPE) standard, 29 CFR 1910.132 (general) and 138 (hand protection).

Respiratory: Respirators should be selected by and used under the direction of a trained health and safety professional following requirements found in OSHA's respirator standard (29 CFR 1910.134) and ANSI's standard for respiratory protection (Z88.2-1992). A written respiratory protection program, including provisions for medical certification, training, fit-testing, exposure assessments, maintenance, inspection, cleaning, and convenient, sanitary storage, must be implemented.

DUST/MIST: If concentrations are below the TLV and/or PEL, a NIOSH-approved disposable dust/mist respirator may be used for personal comfort. For concentrations above the TLV and/or PEL but less than 10 times these limits, a NIOSH-approved half-face piece respirator equipped with dust-mist cartridges may be used. For concentrations greater than 10 times the TLV and/or PEL, consult the NIOSH respirator decision logic found in Publication No. 87-116 or ANSI Z88.2-1992. Note: ANSI Z88.2-1992 requires the use of a HEPA filter if the particle size distribution of the contaminant is unknown. Warning! Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

For molten/heated product:

GAS/VAPOR: For concentrations above the TLV and/or PEL but less than 10 times these limits, a NIOSH approved half-face piece respirator equipped with appropriate chemical cartridges may be used. For concentrations greater than 10 times the TLV and/or PEL, consult the NIOSH respirator decision logic found in Publication No. 87-116 or ANSI Z88.2-1992. Warning! Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

General: Use good industrial hygiene practices in handling this material. Eye wash fountains and emergency showers are recommended. Launder contaminated clothing before reuse.

Observe exposure limits for Particulates (NOC):

ACGIH TLV TWA: 10 mg/m³ Total dust; **ACGIH TLV TWA:** 3 mg/m³ Respirable dust;

OSHA PEL TWA: 15 mg/m³ Total dust; **OSHA PEL TWA:** 5 mg/m³ Respirable dust.

Xylene is typically present at a residual level of < 300 ppm. Observe exposure limits for xylene:

ACGIH TLV TWA: 100 ppm;

OSHA PEL TWA: 100 ppm;

OSHA STEL: 150 ppm.

Chemical or Product Name	CASRN/Trade Secret #	OSHA PEL	ACGIH TLV
Modified Terpene Resin	Proprietary, NJTSRN-7332	Not established	Not established

Section 9. Physical and Chemical Properties

Appearance: Light yellow solid	Vapor Density: Not determined.
Odor: Odorless unless heated	% Volatile (EPA Method 24): 1.5-2.5% (w/w)
Molecular Weight: ~1215 (weight average)	Solubility (water): Negligible
pH: Not applicable	Flash Point: 216°C (420°F), (Setaflash Closed Cup)
Specific Gravity: >1 (Water=1)	R/B Softening Point: 97°C
Boiling Point: 399°C (751°F)	Acid No. (Per ASTM D- 465): Not available
Relative Density: 1.01x 10 ³ kg/m ³ @ 20°C	Vapor Pressure: < 2.8 x 10 ⁻⁴ Pa @ 25°C

Section 10. Stability and Reactivity Data

Chemical Stability: The product is stable.

Conditions to Avoid: Avoid strong oxidizing agents.

Incompatibility: May react with strong oxidizing agents.

Hazardous Decomposition Products: Smoke, carbon monoxide, carbon dioxide and other products of combustion.

Hazardous Polymerization: Hazardous polymerization will not occur.

Section 11. Toxicological Information

Toxicity to Animals: ACUTE ORAL, rat, LD50 > 2000 mg/kg
SKIN IRRITATION, Mild irritant
EYE IRRITATION, Mild irritant
28-DAY REPEAT DOSE ORAL, rat, NOEL 1000/mg/kg/day; no observed effects or deaths
AMES Mutagenicity, Non-mutagenic

Product showed mild skin and eye irritation but is not classified under any system (OSHA, GHS, WHMIS, etc.). Product showed potential for mild skin sensitization in the Local Lymph Node Assay (LLNA) test. Product is not acutely or chronically toxic.

Toxicity to Humans: CHROMOSOME ABERRATION, human lymphocytes, Non-clastogenic

Carcinogenic Effects: This product is not listed as a carcinogen by ACGIH, IARC, NIOSH, NTP or OSHA.

Mutagenic Effects: Not mutagenic by Ames test.

Teratogenic Effects: Did not cause effects in the chromosome aberration test with human lymphocytes.

Section 12. Ecological Information

Ecotoxicity: ACUTE TOXICITY, Fish, 96 hr LL50 >1000 mg/l loading rate WAF; NOEL 1000 mg/l loading rate WAF
ACUTE TOXICITY, Daphnia, 48 hr EL50 > 1000 mg/l loading rate WAF; NOEL 1000 mg/l loading rate WAF
GROWTH INHIBITION, Algae, EL50 >1000 mg/l loading rate WAF

Environmental Fate: BIODEGRADATION, 39% degradation after 28 days, not readily biodegradable

Section 13. Disposal Considerations

Waste Disposal Waste material must be tested using methods described in 40 CFR 261 to determine if it meets applicable definitions of hazardous waste. No EPA Waste Numbers are applicable for this product's components. Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations. Write to the address listed in Section 1 for information on heavy metals analysis and other disposal information.

Section 14. Transport Information

DOT Classification Not a DOT controlled materials.
DOT Proper Shipping Name: None
DOT Identification Number: None
Packing Group: None
Hazardous Substances Reportable Quantity: None

Special Provisions for Transport: IF SHIPPED OVER 100°C (but less than flash point): DOT Shipping Name: Elevated Temperature Liquid, n.o.s.; Hazard Class: 9; UN/NA Number: UN3257; Packing Group III; bulk shipping requires "HOT" placard

Additional Shipping Information: Not a Marine Pollutant

International Transportation Regulations: Not classified

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Section 15. Regulatory Information
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OSHA: Not hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

TSCA: This product is on the Toxic Substances Control Act (TSCA) Inventory.

SARA TITLE III:

SARA Section 302 (EHS) (40 CFR 355 Appendix A): None of this product's components are listed.

SARA Section 311/312 (40 CFR 370.2): None.

SARA Section 313 Toxic Chemicals (40 CFR 372.65): None of this product's components are listed.

CERCLA (40 CFR 302.4): None of this product's components are listed.

International Inventory Status: This product is either listed or exempt from listing on the following inventories: Canada DSL, Europe EINECS, Japan ENCS, China IECS.

This product contains antioxidant(s).

State Lists: None of this product's components are listed in FL, MA, MN, NJ or PA.

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Section 16. Other Information
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Key/Legend: ACGIH = American Conference of Governmental Industrial Hygienists. ANSI = American National Standards Institute. ASTM = American Society for Testing and Materials. CERCLA = Comprehensive Environmental Response, Compensation and Liability Act. DOT = Department of Transportation. EPA = Environmental Protection Agency. IARC = International Agency for Research on Cancer. LD = Lethal Dose. NIOSH = National Institute of Occupational Health and Safety. NTP = National Toxicology Program. OSHA = Occupational Safety and Health Administration. PEL = Permissible Exposure Limit. SARA = Superfund Amendments and Reauthorization Act. TLV = Threshold Limit Value. TSCA = Toxic Substance Control Act.

Supersedes Date: January 30, 2008

Reason for Revision: New format. Revised Sections 2, 5, 9, 11 and 12.

Validated By: Jenifer Whittington

Title: Product Regulatory Manager

Date: February 13, 2008

Notice to Reader

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