

# MATERIAL SAFETY DATA SHEET

*Mace Company*  
*The Polyurethane Specialists*

## 1. PRODUCT and COMPANY IDENTIFICATION

Mace Adhesives & Coatings Co., Inc.  
38 Roberts Road, PO Box 37  
Dudley, MA 01571

Phone: 508-943-9052 (Mon.-- Fri. 8 - 5 pm EST)

Product Name: **Macekote FR-251**

Description: **waterborne polyurethane dispersion**

Emergency Number: For Chemical Emergency ONLY (spill, leak, fire, exposure or accident), call Chemtrec 1-800-424-9300 (24 hrs.)

## 2. COMPOSITION / INFORMATION ON INGREDIENTS (Only potentially hazardous ingredients are listed)

WT%	CAS NUMBER	COMPONENT
12 -- 14%	872-50-4	NMP
1 -- 2%	121-44-8	Triethylamine

(Values are not product specifications)

## 3. HAZARDS IDENTIFICATION

### Emergency Overview:

Form: Milky - translucent liquid, slight to no odor

Primary routes of entry: Skin contact, eye contact, ingestion, inhalation

Acute health affects: Skin, respiratory, gastrointestinal, and eye irritant

## 4. FIRST AID MEASURES

Eyes: Flush with water for 15 minutes holding eyelids open. Seek medical attention.

Skin: Wash skin thoroughly with soap and water. Seek medical attention if redness, itching or a burning sensation develops. Remove and clean contaminated clothing.

Inhalation: Remove to fresh air, if difficulty breathing give oxygen. Seek medical attention if cough or other respiratory symptoms develop.

Ingestion: Do not induce vomiting unless directed to do so by medical personnel. If victim is conscious give one or two glasses of water to drink and contact physician and/or poison control center immediately.

## 5. FIRE FIGHTING MEASURES

Flash Point > 200°F

Extinguishing media: All extinguishing media are suitable.

Special Instructions: Use self-contained breathing apparatus and full protective clothing.

## 6. ACCIDENTAL RELEASE MEASURES

Spill Procedures: Wear skin, eye, and respiratory protection during cleanup. Contain spill. Soak up material with absorbent material, place into appropriate container and dispose of properly.

## **7. HANDLING and STORAGE**

Handling: Avoid contact with skin, eyes, or clothing.

Wear chemically resistant gloves and proper eye protection.

Respiratory protection not normally required with adequate ventilation. If necessary, use NIOSH certified respirator for vapors, mists, and fumes.

Wash thoroughly after handling.

Storage: Keep container tightly sealed when not in use. Store in a cool, dry, well ventilated area.

## **8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

Exposure Guidelines:

CAS NUMBER	COMPONENT	OSHA		ACGIH / Other		Unit
		TWA	STEL	TWA	STEL	
872-50-4	NMP	NO INFO	NO INFO	NO INFO	NO INFO	ppm
121-44-8	Triethylamine	25	NO INFO	1	3	ppm

Engineering Controls: - Provide readily accessible eye wash stations and safety showers  
- Use adequate ventilation to maintain safe levels

Protective Equipment:

Respiratory protection: - If needed, use NIOSH certified respirator for vapors, mists, and fumes

Eye protection: - Wear chemical splash goggles

General hygiene: There are no known hazards associated with this material when used as recommended. The following general hygiene considerations are recognized as common good industrial hygiene practices:  
- Avoid breathing vapor or mist  
- Avoid contact with skin or eyes  
- Wash thoroughly after handling and before eating or drinking.

## **9. PHYSICAL and CHEMICAL PROPERTIES**

<b>Appearance/Form:</b>	Milky to translucent white liquid	(Values are not product specifications)
<b>Odor:</b>	Mild amine (no threshold data)	
<b>Boiling Point:</b>	100°C (212°F)	
<b>Freeze Point:</b>	0°C (32°F)	
<b>pH</b>	8.50 +/-	
<b>Density</b>	8.91 lbs/gal. +/-	<b>Specific Gravity:</b> 1.07
<b>Solids Content</b>	40% +/-	<b>Volatiles:</b> 60%
<b>Bulk Density:</b>	No data	<b>Solubility in Water:</b> Dispersible
<b>Vapor Pressure:</b>	No data	<b>Vapor Density:</b> > 1 (air = 1)
<b>Melting point:</b>	No data	<b>Partition coefficient n-octanol/water:</b> No data
<b>Flash Point:</b>	Not applicable in liquid state, solid material may support combustion after water removed.	

## **10. STABILITY and REACTIVITY**

**Chemical Stability:** Stable under normal conditions.

**Conditions to avoid:** None known.

**Hazardous polymerization:** Not known to occur.

**Materials to avoid:** Water reactives.

## 11. TOXICOLOGICAL INFORMATION

**Ingestion:** No data is available on the product itself.

**Inhalation:** No data is available on the product itself.

**Skin:** No data is available on the product itself.

**Eye irritation:** Mild eye irritant

**Toxicological info on similar products:** LD50 oral, rat > 2,000 mg/kg

For up to date Toxicological Information pertinent to any components listed in Section 2, review the MSDS supplied by a manufacturer of said component (or call number in Section 1 for a copy of said MSDS).

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity:** No Data

**Environmental fate:** No Data

**Other:** No Data

**Fish Toxicity of similar products:** LC50 > 500 mg/l

Avoid contamination of ground water and waterways.

For up to date Ecological Information pertinent to any components listed in Section 2, review the MSDS supplied by a manufacturer of said component (or call number in Section 1 for a copy of said MSDS).

## 13. DISPOSAL CONSIDERATIONS

Incinerate or dispose of in accordance with Federal, State, and/or local regulations.

If this product as supplied becomes a waste, it does **not** meet the criteria of a hazardous waste as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.

## 14. TRANSPORT INFORMATION

Not regulated by the US DOT.

## 15. REGULATORY INFORMATION

### **US Toxic Substances Control Act:**

The components of this product are on the TSCA inventory

### **Canadian Environmental Protection Act:**

The ingredients of this product are on the DSL (Domestic Substances List)

### **Europe:**

All the raw materials used in this product are listed in EINECS or ELINCS; none of the ingredients are listed on the EU's "Restriction of Hazardous Substances Directive (RoHS)" of 2002/95/EC.

**EPA SARA Title III Section 313 (EPCRA) and (40 CFR 372)** - This product contains the following chemicals subject to the reporting requirements of the above regulations:

**n-Methyl-2-pyrrolidone (NMP)**

**triethylamine**

**California Proposition 65:** WARNING - This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

**n-Methyl-2-pyrrolidone (NMP)**

## 16. OTHER INFORMATION

### **HMIS:**

<b>Health</b>	<b>1</b>
<b>Fire</b>	<b>0</b>
<b>Reactivity</b>	<b>0</b>

0=Minimal 1=Slight 2=Moderate 3=High 4=Extreme

Hazard rating and rating systems: This information is intended solely for the use of individuals trained in the particular system.

To the best of our knowledge the information presented here is accurate. This information is furnished without warranty, express or implied.

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