

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: **TRA-BOND F253 Hardener**

Date Printed: 12/5/2002

TRA-CON, INC.
45 Wiggins Avenue
Bedford, MA 01730
781-275-6363
1-800-872-2661

Revision Date: 11/18/2002

Revision: C

Emergency Telephone: 1-800-424-9300 (24 hours, CHEMTREC)

2. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS Number	%	OSHA ACGIH	TWA ppm	mg/m3	STEL ppm	mg/m3	Ceiling ppm	mg/m3
Tetraethylenepentamine	000112-57-2	10 - 20							
1-benzyl-2-methyl imidazole	013750-62-4	40 - 50							
1,6-Hexanediamine, 2,2,4-trimethyl-	003236-53-1	< 5							
1,6-Hexanediamine, 2,4,4-trimethyl-	003236-54-2	< 5							
Proprietary Organic Diamines	NJ 56705700001-5195P	1 - 10							
Proprietary Organic Diamines	NJ 56705700001-5196P	1 - 10							
Proprietary Organic Diamines	NJ 56705700001-5197P	1 - 10							
Proprietary Organic Diamines	NJ 56705700001-5198P	1 - 10							

3. HAZARDS IDENTIFICATION

Effects of Overexposure: Repeated contact or breathing of vapors may cause irritation; material is also a strong sensitizer. Eye and skin contact may cause transient irritation.

4. FIRST AID MEASURES

Eyes	Flush with water, get medical attention.
Skin	Wash with soap and water; remove contaminated clothing.
Inhalation	Remove to fresh air.
Ingestion	No known antidote but give milk or water; do NOT induce vomiting if swallowed; get medical attention.

5. FIREFIGHTING MEASURES

Flashpoint	> 250°F
Flashpoint Method	PMCC
Extinguishing Media	Dry chemicals, chemical foam, carbon dioxide, water.
Special Firefighting Measures	Avoid breathing smoke. Addition of water may reduce flame intensity.

Fire and Explosion Hazards	Toxic gases may be liberated; handle as combustible; store in a cool place.
Flammable Limits	N/A
LEL	N/A
UEL	N/A

6.ACCIDENTAL RELEASE MEASURES

Spill and Leak Procedures	Prevent skin and eye contact. Soak up in absorbent material, or scrape up, and transfer to disposal container. Wipe up remaining residue with solvents, observing solvent flammability cautions, or use detergents.
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7. HANDLING AND STORAGE

Special Sensitivity	Store in cool place in closed containers.
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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Local Exhaust	Recommended
Mechanical Exhaust	Recommended
Eye Protection Requirements	Safety glasses or goggles
Glove Requirements	Rubber or plastic disposable.
Other Protection	As required to prevent all body contact; eye bath and/or safety shower.
Respirator Requirements	Air supplied or organic canister, mask in confined areas.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor	Clear, amber-yellow, low viscosity liquid, ammoniacal odor.
Boiling Point (°F)	> 300
Solubility in Water	negligible
Specific Gravity (H ₂ O=1)	1.0
Evaporation Rate (BuAc=1)	low
Vapor Pressure (mm Hg.)	< 1
Vapor Density (air = 1)	> 4
Percent Volatile	low

10. STABILITY AND REACTIVITY

Stability	Stable
Conditions to Avoid (Stability)	Avoid contact with metals corroded by liquid amines; avoid high temperatures.
Incompatibility (Materials to Avoid)	Strong acids and bases, strong oxidizing agents.
Hazardous Decomposition Products	Carbon monoxide, carbon dioxide, aldehydes, phenol.
Hazardous Polymerization	Will Not Occur
Conditions to Avoid (Reactivity)	Chlorinated compounds; exotherms when used to cure epoxy resins.

11. TOXICOLOGICAL INFORMATION

Primary Entry Route(s)	Skin, eyes, inhalation.
Oral, LD50	Not determined, estimated based upon diethylene triamine. LD50 (rats) > 500 mg/kg ;
Dermal, LD50	> 1400 mg/kg

12. ECOLOGICAL INFORMATION

Not available

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods	Dispose of as hazardous waste according to local, state and federal regulations. Disposal method can be land burial or chemical incineration as regulated by all governmental agencies.
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14. TRANSPORTATION INFORMATION

Not Applicable

15. REGULATORY INFORMATION

TSCA: All components are on the TSCA inventory.

STATE LAWS:

The information given and the recommendations made herein apply to our product(s) alone and are not combined with other product(s). Such are based on our research and on data from other reliable sources and are believed to be accurate. no guaranty of accuracy is made. it is the purchaser's responsibility before using any product to verify this data under their own operating conditions and to determine whether the product is suitable for their purposes

16. OTHER INFORMATION

MSDS Date: 11/18/2002	Revision: C	HMIS Coding: H: 3 F: 1 R: 0
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1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: **TRA-BOND F253 Pre-Mixed and Frozen**

Date Printed: 12/5/2002

TRA-CON, INC.
45 Wiggins Avenue
Bedford, MA 01730
781-275-6363
1-800-872-2661

Revision Date: 11/18/2002

Revision: C

Emergency Telephone: 1-800-424-9300 (24 hours, CHEMTREC)

2. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS Number	%	OSHA ACGIH	TWA ppm	mg/m3	STEL ppm	mg/m3	Ceiling ppm	mg/m3
Phenol,4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl) oxirane	025068-38-6	75 - 95							
Oxirane,((2-methylphenoxy)methyl)-	002210-79-9	< 10							
Alkaneklyamines	--	< 5							

3. HAZARDS IDENTIFICATION

Effects of Overexposure: Repeated contact or breathing of vapors may cause irritation; material is also a strong sensitizer. Eye and skin contact may cause transient irritation.

4. FIRST AID MEASURES

Eyes: Flush with water, get medical attention.
Skin: Wash with soap and water; remove contaminated clothing.
Inhalation: Remove to fresh air.
Ingestion: No known antidote but give milk or water; induce vomiting if large amount swallowed.

5. FIREFIGHTING MEASURES

Flashpoint: > 200°F
Flashpoint Method: setaflash
Extinguishing Media: Dry chemicals, chemical foam, carbon dioxide, water.
Special Firefighting Measures: Avoid breathing smoke. Use self-contained breathing apparatus.
Fire and Explosion Hazards: Toxic gases may be liberated; handle as combustible; store in a cool place.
Flammable Limits: N/A
LEL: N/A
UEL: N/A

6. ACCIDENTAL RELEASE MEASURES

Spill and Leak Procedures: Prevent skin and eye contact. Soak up in absorbent material or scrape up and transfer to disposal container. Wipe up remaining residue with solvents, observing solvent flammability cautions or use detergents.

7. HANDLING AND STORAGE

Special Sensitivity	Store in freezer at minimum -40°F. Thaw cartridges in upright position, dispensing tip up, to release air in tip cap, if any.
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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Local Exhaust	Recommended
Mechanical Exhaust	Recommended
Eye Protection Requirements	Safety glasses or goggles
Glove Requirements	Rubber or plastic disposable.
Other Protection	As required to prevent all body contact; eye bath and/or safety shower.
Respirator Requirements	Air supplied or organic canister, mask in confined areas.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor	Clear, amber-yellow liquid, ammoniacal odor.
Boiling Point (°F)	> 250
Solubility in Water	partial
Specific Gravity (H ₂ O=1)	1.1
Evaporation Rate (BuAc=1)	ND
Vapor Pressure (mm Hg.)	< 1
Vapor Density (air = 1)	ND
Percent Volatile	ND

10. STABILITY AND REACTIVITY

Stability	Unstable
Conditions to Avoid (Stability)	Avoid uncontrolled excess heating over long periods; avoid uncontrolled amine reaction Will react at room temp. Keep frozen at all times.
Incompatibility (Materials to Avoid)	Carbon monoxide, carbon dioxide, aldehydes, phenol.
Hazardous Decomposition Products	Carbon monoxide, carbon dioxide, aldehydes, nitrogen oxides.
Hazardous Polymerization	May Occur
Conditions to Avoid (Reactivity)	Moderate temperatures, strong acids; certain organics, metallic acids.

11. TOXICOLOGICAL INFORMATION

Primary Entry Route(s)	Skin, eyes, inhalation
Oral, LD50	Ingestion LD50 2.5 g/kg. Dermal LD50 2.3 g/kg.

12. ECOLOGICAL INFORMATION

Not available

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods	Dispose of as hazardous waste according to local, state and federal regulations. Disposal method can be land burial or chemical incineration as regulated by all governmental agencies.
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14. TRANSPORTATION INFORMATION

Not Applicable

15. REGULATORY INFORMATION

TSCA: All components are on the TSCA inventory.

STATE LAWS:

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16. OTHER INFORMATION

MSDS Date: 11/18/2002

Revision: C

HMIS Coding: H: 2 F: 1 R: 1

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: **TRA-BOND F253 Resin**

Date Printed: 12/5/2002

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Revision Date: 11/18/2002

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Emergency Telephone: 1-800-424-9300 (24 hours, CHEMTREC)

2. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS Number	%	OSHA ACGIH	TWA ppm	mg/m3	STEL ppm	mg/m3	Ceiling ppm	mg/m3
Phenol,4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl) oxirane	025068-38-6	80 - 100							
Oxirane[(methylphenoxy)methyl]-	026447-14-3	up to 20							

3. HAZARDS IDENTIFICATION

Effects of Overexposure: Repeated contact or breathing of vapors may cause irritation; material is also a strong sensitizer. Eye and skin contact may cause transient irritation.

4. FIRST AID MEASURES

Eyes: Flush with water, get medical attention.
Skin: Wash with soap and water; remove contaminated clothing.
Inhalation: Remove to fresh air.
Ingestion: No known antidote but give milk or water; induce vomiting if large amount swallowed.

5. FIREFIGHTING MEASURES

Flashpoint: > 300°F
Flashpoint Method: TOC
Extinguishing Media: Dry chemicals, chemical foam, carbon dioxide, water.
Special Firefighting Measures: Avoid breathing smoke. Addition of water may reduce flame intensity.
Fire and Explosion Hazards: Toxic gases may be liberated; handle as combustible; store in a cool place.
Flammable Limits: N/A
LEL: N/A
UEL: N/A

6. ACCIDENTAL RELEASE MEASURES

Spill and Leak Procedures: Prevent skin and eye contact. Soak up in absorbent material or scrape up and transfer to disposal container. Wipe up remaining residue with solvents, observing solvent flammability cautions or use detergents.

7. HANDLING AND STORAGE

Special Sensitivity: Store in cool place in closed containers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Local Exhaust	Recommended
Mechanical Exhaust	Recommended
Eye Protection Requirements	Safety glasses or goggles
Glove Requirements	Rubber or plastic disposable.
Other Protection	As required to prevent all body contact; eye bath and/or safety shower.
Respirator Requirements	Air supplied or organic canister, mask in confined areas.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor	Clear, light yellow, low viscosity liquid, aromatic odor.
Boiling Point (°F)	> 300
Solubility in Water	nil
Specific Gravity (H ₂ O=1)	1.2
Evaporation Rate (BuAc=1)	low
Vapor Pressure (mm Hg.)	< 1
Vapor Density (air = 1)	> 1
Percent Volatile	nil

10. STABILITY AND REACTIVITY

Stability	Stable
Conditions to Avoid (Stability)	Avoid uncontrolled excess heating over long periods; avoid uncontrolled amine reaction
Incompatibility (Materials to Avoid)	Strong acids and bases, strong oxidizing agents.
Hazardous Decomposition Products	Carbon monoxide, carbon dioxide, aldehydes, phenol.
Hazardous Polymerization	Will Not Occur
Conditions to Avoid (Reactivity)	High temperatures, strong acids; certain organics, metallic acids.

11. TOXICOLOGICAL INFORMATION

Primary Entry Route(s)	Skin, eyes, inhalation.
Oral, LD50	LD50 (rats) > 8 grams/kg.

12. ECOLOGICAL INFORMATION

Not available

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods	Dispose of as hazardous waste according to local, state and federal regulations. Disposal method can be land burial or chemical incineration as regulated by all governmental agencies.
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14. TRANSPORTATION INFORMATION

Not Applicable

15. REGULATORY INFORMATION

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