

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: FORMULA 2000 PLUS COMPONENT 1
PRODUCT TYPE: Special cleaner for removal of oxidation/
reduction products from X-ray film developers

IMPORTER/
DISTRIBUTOR: Air Techniques, Inc.
70 Cantiague Rock Road
P.O. Box 870
Hicksville, NY 11802, USA
Phone: 516-433-7676

2. COMPOSITION/ INFORMATION ON INGREDIENTS

Component	CAS#	% By Wt.	Exposure Limits
1-Hydroxyethane-1,1-diphosphonic acid	2809-21-4	1 - 5	N/A
Thiourea	62-56-6	1 - 5	OSHA 1 mg/kg
Water	7732-18-5	60 - 95	N/A

3. HAZARD IDENTIFICATION

POTENTIAL HEALTH EFFECTS:

ROUTE(S) OF ENTRY: Skin and eye contact

HUMAN EFFECTS AND SYMPTOMS OF OVEREXPOSURE:

1-Hydroxyethane-1,1-diphosphonic acid is a severe eye irritant and a skin irritant. Thiourea is toxic by ingestion or inhalation. It is an irritant to skin, eyes and respiratory passages. It may cause sensitization.

CARCINOGENICITY:

NTP: Yes thiourea listed as "reasonably anticipated to be a human carcinogen"

IARC: Yes thiourea group 2B, "possibly carcinogenic to humans"

OSHA: No

California Prop. 65 thiourea listed as "Chemicals known to the State to cause cancer"

4. FIRST AID MEASURES

SKIN: Remove contaminated clothing and shoes. Flush affected area with large amounts of water. Do not use solvents or thinners. Get immediate medical attention.

EYES: Hold eyes open and flush for at least 15 minutes with large amounts of water. Get immediate medical attention.

INGESTION: Do not induce vomiting. Give two glasses of water to dilute stomach contents. Never give anything by mouth to an unconscious person. Get immediate medical attention.

INHALATION: Remove to fresh air immediately. If breathing is difficult administer oxygen. Get immediate medical attention.

5. FIRE FIGHTING MEASURES

FLASH POINT: N/A

EXTINGUISHING MEDIA: Use extinguishing media suitable for surrounding fire.

SPECIAL FIRE FIGHTING PROCEDURES: Product is not flammable. However, overheating of containers will produce toxic fumes. Use self contained breathing apparatus and full protective clothing.

6. ACCIDENTAL RELEASE MEASURES

SPILL AND LEAK PROCEDURES: Wear appropriate personal protective equipment; contain spills onto inert absorbent and place in suitable containers.

7. HANDLING AND STORAGE

STORAGE: Store closed containers in an area away from heat. Do not store at temperatures below 5°C.

HANDLING: Use with adequate ventilation. Avoid skin and eye contact. Do not eat, drink or smoke in application area.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

RESPIRATORY PROTECTION: If airborne concentration exceeds recommended limits, use a NIOSH approved respirator in accordance with OSHA Respirator Protection requirements under 29 CFR 1910.134.

SKIN PROTECTION: Clothing suitable to avoid skin contact. Use neoprene, nitrile or natural rubber gloves. Check suitability recommendations by protective equipment manufacturers, especially towards chemical breakthrough resistance.

EYE PROTECTION: Safety goggles with side shields.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL FORM: Clear Colorless Liquid

ODOR: Characteristic

PH: 1.0 - 2.0

BOILING POINT: ~212°F (100°C)

AUTOIGNITION: N/A

VAPOR PRESSURE: N/A

SOLUBILITY IN WATER: Completely

DENSITY: 1.02 - 1.04 g/cm³

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable

HAZARDOUS DECOMPOSITION PRODUCTS: Sulfur dioxide.

POLYMERIZATION: Hazardous polymerization will not occur.

INCOMPATIBILITIES: Strong acids and alkaline materials.

11. TOXICOLOGICAL INFORMATION

See Section 3 - Human Effects and Symptoms of Overexposure

12. ECOLOGICAL INFORMATION

Avoid contamination of ground water or waterways. Do not discharge into sewers.

13. DISPOSAL CONSIDERATIONS

Dispose of in accordance with Federal, State or Local regulations.

14. TRANSPORT INFORMATION

DOT SHIPPING NAME: NOT REGULATED.

15. REGULATORY INFORMATION

All components of this product are on the TSCA Inventory.

SARA Title III:

Thiourea is subject to the supplier notification requirements of Section 313 of the Superfund Amendments and Reauthorization Act (SARA/EPCRA) and the requirements of 40 CFR Part 372.

Note: Entries under this section cover only those regulations typically addressed in the MSDS generating process, such as TSCA, and EPCRA/SARA Title III.

16. OTHER INFORMATION

HAZCOM LABEL: DANGER! CAUSES EYE BURNS. MAY CAUSE SKIN IRRITATION. POSSIBLE CANCER HAZARD. CONTAINS INGREDIENT THAT CAUSED CANCER IN ANIMALS.

To the best of our knowledge, the information contained in this MSDS is accurate. It is intended to assist the user in his evaluation of the product's hazards, and safety precautions to be taken in its use. The data on this MSDS relate only to the specific material designated herein. We do not assume any liability for the use of, or reliance on this information, nor do we guarantee its accuracy or completeness.

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: FORMULA 2000 PLUS COMPONENT 2
PRODUCT TYPE: Special cleaner for removal of oxidation/
reduction products from X-ray film developers

IMPORTER/
DISTRIBUTOR: Air Techniques, Inc.
70 Cantiague Rock Road
P.O. Box 870
Hicksville, NY 11802, USA
Phone: 516-433-7676

2. COMPOSITION/ INFORMATION ON INGREDIENTS

Component	CAS#	% By Wt.	Exposure Limits
Sodium persulfate	7775-27-1	45 - 55	0.1 mg/m ³ TWA ACGIH
Sodium sulfate	7757-82-6	45 - 55	N/A

3. HAZARD IDENTIFICATION

POTENTIAL HEALTH EFFECTS:

ROUTE(S) OF ENTRY: Inhalation, skin and eye contact

HUMAN EFFECTS AND SYMPTOMS OF OVEREXPOSURE:

Sodium persulfate is a severe irritant to skin, eyes and respiratory passages. May cause sensitization by inhalation or skin contact.

CARCINOGENICITY:

NTP: No

IARC: No

OSHA: No

4. FIRST AID MEASURES

SKIN: Remove contaminated clothing and shoes. Flush affected area with large amounts of water. Do not use solvents or thinners. Get immediate medical attention.

EYES: Hold eyes open and flush for at least 15 minutes with large amounts of water. Get immediate medical attention.

INGESTION: Do not induce vomiting. Give two glasses of water to dilute stomach contents. Never give anything by mouth to an unconscious person. Get immediate medical attention.

INHALATION: Remove to fresh air immediately. If breathing is difficult administer oxygen. Get immediate medical attention.

5. FIRE FIGHTING MEASURES

FLASH POINT: N/A

EXTINGUISHING MEDIA: Alcohol foam, carbon dioxide, dry powder, or water spray.

SPECIAL FIRE FIGHTING PROCEDURES: Product is not flammable. However, over-heating of containers will produce toxic fumes. Use self contained breathing apparatus and full protective clothing.

6. ACCIDENTAL RELEASE MEASURES

SPILL AND LEAK PROCEDURES: Wear appropriate personal protective equipment; collect and place in suitable containers.

7. HANDLING AND STORAGE

STORAGE: Store closed containers in an area away from heat and combustible materials.

HANDLING: Use with adequate ventilation. Avoid skin and eye contact. Do not eat, drink or smoke in application area.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

RESPIRATORY PROTECTION: If airborne concentration exceeds recommended limits, use a NIOSH approved respirator in accordance with OSHA Respirator Protection requirements under 29 CFR 1910.134.

SKIN PROTECTION: Clothing suitable to avoid skin contact. Use neoprene, nitrile or natural rubber gloves. Check suitability recommendations by protective equipment manufacturers, especially towards chemical breakthrough resistance.

EYE PROTECTION: Safety goggles with side shields.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL FORM: White powder

ODOR: Odorless

pH: N/A

AUTOIGNITION: N/A

VAPOR PRESSURE: N/A

SOLUBILITY IN WATER: Completely

BULK DENSITY: 1100 kg/m³

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable.

HAZARDOUS DECOMPOSITION PRODUCTS: Oxides of Sulfur.

POLYMERIZATION: Hazardous polymerization will not occur.

INCOMPATIBILITIES: Will oxidize organic substances. Keep away from alkalis, metals, reducing agents and combustible substances.

11. TOXICOLOGICAL INFORMATION

See Section 3 Human Effects and Symptoms of Overexposure

12. ECOLOGICAL INFORMATION

Avoid contamination of ground water or waterways. Do not discharge into sewers. May be toxic to aquatic organisms.

13. DISPOSAL CONSIDERATIONS

Dispose of in accordance with Federal, State or Local regulations.

14. TRANSPORT INFORMATION

DOT SHIPPING NAME: NOT REGULATED.

15. REGULATORY INFORMATION

All components of this product are on the TSCA Inventory.

SARA Title III:

To the best of our knowledge this product contains no toxic chemicals subject to the supplier notification requirements of Section 313 of the Superfund Amendments and Reauthorization Act (SARA/EPCRA) and the requirements of 40 CFR Part 372. Note: Entries under this section cover only those regulations typically addressed in the MSDS generating process, such as, TSCA, and EPCRA/SARA Title III.

16. OTHER INFORMATION

HAZCOM LABEL: WARNING! CAUSES SKIN AND EYE IRRITATION. MAY CAUSE SENSITIZATION BY INHALATION AND SKIN CONTACT.

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IMPORTER/
DISTRIBUTOR: Air Techniques, Inc.
70 Cantiague Rock Road
P.O. Box 870
Hicksville, NY 11802, USA
Phone: 516-433-7676

PRIMARY EMERGENCY
CONTACT: CHEMTREC Phone: 1-800-424-9300

2. COMPOSITION/ INFORMATION ON INGREDIENTS

Component	CAS#	% By Wt.	Exposure Limits
1-Hydroxyethane-1,1-diphosphonic acid	2809-21-4	1 - 5	N/A
Thiourea	62-56-6	1 - 5	OSHA 1 mg/kg
Water	7732-18-5	60 - 95	N/A

3. HAZARD IDENTIFICATION

POTENTIAL HEALTH EFFECTS:

ROUTE(S) OF ENTRY: Skin and eye contact

HUMAN EFFECTS AND SYMPTOMS OF OVEREXPOSURE:

1-Hydroxyethane-1,1-diphosphonic acid is a severe eye irritant and a skin irritant. Thiourea is toxic by ingestion or inhalation. It is an irritant to skin, eyes and respiratory passages. It may cause sensitization.

CARCINOGENICITY:

NTP: Yes thiourea listed as "reasonably anticipated to be a human carcinogen"

IARC: Yes thiourea group 2B, "possibly carcinogenic to humans"

OSHA: No

California Prop. 65 thiourea listed as "Chemicals known to the State to cause cancer"

4. FIRST AID MEASURES

SKIN: Remove contaminated clothing and shoes. Flush affected area with large amounts of water. Do not use solvents or thinners. Get immediate medical attention.

EYES: Hold eyes open and flush for at least 15 minutes with large amounts of water. Get immediate medical attention.

INGESTION: Do not induce vomiting. Give two glasses of water to dilute stomach contents. Never give anything by mouth to an unconscious person. Get immediate medical attention.

INHALATION: Remove to fresh air immediately. If breathing is difficult administer oxygen. Get immediate medical attention.

5. FIRE FIGHTING MEASURES

FLASH POINT: N/A

EXTINGUISHING MEDIA: Use extinguishing media suitable for surrounding fire.

SPECIAL FIRE FIGHTING PROCEDURES: Product is not flammable. However, overheating of containers will produce toxic fumes. Use self contained breathing apparatus and full protective clothing.

6. ACCIDENTAL RELEASE MEASURES

SPILL AND LEAK PROCEDURES: Wear appropriate personal protective equipment; contain spills onto inert absorbent and place in suitable containers.

7. HANDLING AND STORAGE

STORAGE: Store closed containers in an area away from heat. Do not store at temperatures below 5°C.

HANDLING: Use with adequate ventilation. Avoid skin and eye contact. Do not eat, drink or smoke in application area.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

RESPIRATORY PROTECTION: If airborne concentration exceeds recommended limits, use a NIOSH approved respirator in accordance with OSHA Respirator Protection requirements under 29 CFR 1910.134.

SKIN PROTECTION: Clothing suitable to avoid skin contact. Use neoprene, nitrile or natural rubber gloves. Check suitability recommendations by protective equipment manufacturers, especially towards chemical breakthrough resistance.

EYE PROTECTION: Safety goggles with side shields.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL FORM: Clear Colorless Liquid

ODOR: Characteristic

PH: 1.0 - 2.0

BOILING POINT: ~212°F (100°C)

AUTOIGNITION: N/A

VAPOR PRESSURE: N/A

SOLUBILITY IN WATER: Completely

DENSITY: 1.02 - 1.04 g/cm³

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable

HAZARDOUS DECOMPOSITION PRODUCTS: Sulfur dioxide.

POLYMERIZATION: Hazardous polymerization will not occur.

INCOMPATIBILITIES: Strong acids and alkaline materials.

11. TOXICOLOGICAL INFORMATION

See Section 3 - Human Effects and Symptoms of Overexposure

12. ECOLOGICAL INFORMATION

Avoid contamination of ground water or waterways. Do not discharge into sewers.

13. DISPOSAL CONSIDERATIONS

Dispose of in accordance with Federal, State or Local regulations.

14. TRANSPORT INFORMATION

DOT SHIPPING NAME: NOT REGULATED.

15. REGULATORY INFORMATION

All components of this product are on the TSCA Inventory.

SARA Title III:

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HAZCOM LABEL: DANGER! CAUSES EYE BURNS. MAY CAUSE SKIN IRRITATION. POSSIBLE CANCER HAZARD. CONTAINS INGREDIENT THAT CAUSED CANCER IN ANIMALS.

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3. HAZARD IDENTIFICATION

POTENTIAL HEALTH EFFECTS:
ROUTE(S) OF ENTRY: Inhalation, skin and eye contact
HUMAN EFFECTS AND SYMPTOMS OF OVEREXPOSURE:
Sodium persulfate is a severe irritant to skin, eyes and respiratory passages. May cause sensitization by inhalation or skin contact.

CARCINOGENICITY:
NTP: No
IARC: No
OSHA: No

4. FIRST AID MEASURES

SKIN: Remove contaminated clothing and shoes. Flush affected area with large amounts of water. Do not use solvents or thinners. Get immediate medical attention.
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FLASH POINT: N/A
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EYE PROTECTION: Safety goggles with side shields.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL FORM: White powder
ODOR: Odorless
pH: N/A
AUTOIGNITION: N/A
VAPOR PRESSURE: N/A
SOLUBILITY IN WATER: Completely
BULK DENSITY: 1100 kg/m³

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable.
HAZARDOUS DECOMPOSITION PRODUCTS: Oxides of Sulfur.
POLYMERIZATION: Hazardous polymerization will not occur.
INCOMPATIBILITIES: Will oxidize organic substances. Keep away from alkalis, metals, reducing agents and combustible substances.

11. TOXICOLOGICAL INFORMATION

See Section 3 Human Effects and Symptoms of Overexposure

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