

Proxitane® WW-12 Microbiocide

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Material Safety Data Sheet

Chemical: Peroxyacetic acid

NFPA: H=3 F=1 I=2 S=OX

HMIS: H=3 F=1 R=2 PPE= Supplied by user;
dependent on conditions

MSDS Number: WW12-1103

Effective Date: 10 November 2003

Issued by: Solvay Chemicals, Inc. Regulatory Affairs Department

It is a violation of federal law to use this product in a manner inconsistent with its labeling.

Not valid three years after effective date or after issuance of superseding MSDS, whichever is earlier. French or Spanish translations of this MSDS may be available. Check www.solvaychemicals.us or call Solvay Chemicals, Inc. to verify the latest version or translation availability.

Material Safety Data Sheets contain country-specific regulatory information. Therefore, the MSDS's provided are for use only by customers of Solvay Chemicals, Inc. in North America. If you are located in a country other than Canada, Mexico or the United States, please contact the Solvay Group company in your country for MSDS information applicable to your location.

1. Company and Product Identification

1.1 Product Name: PROXITANE® WW-12 Microbiocide

Chemical Name: Peroxyacetic acid, aqueous solution, 12%

Synonyms: Peracetic acid, PAA, peroxyethanoic acid

Chemical Formula: CH₃COOOH

Molecular Weight: 76

CAS Number: 79-21-0

EINECS Number: 201-186-8

**EPA Registration
Number:** 68660-1

1.2 Uses: See label

1.3 Supplier: Solvay Chemicals, Inc.
PO BOX 27328 Houston, TX 77227-7328
3333 Richmond Ave. Houston, Texas 77098

1.4 Emergency Telephone Numbers

Emergencies (USA): 1-800-424-9300 (CHEMTREC®)

Transportation Emergencies (INTERNATIONAL/MARITIME): 1-703-527-3887 (CHEMTREC®)

Transportation Emergencies (CANADA): 1-613-996-6666 (CANUTEC)

Transportation Emergencies (MEXICO-SETIQ): 01-800-00-214-00 (MEX. REPUBLIC)
525-559-1588 (Mexico City and metro
area)



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2. Composition/Information on Ingredients

INGREDIENTS	FORMULA	WT. PERCENT	CAS #
Peroxyacetic acid	CH ₃ OOH	12	79-21-0
Hydrogen peroxide	H ₂ O ₂	18.5	7722-84-1
Acetic acid	CH ₃ OOH	20	64-19-7
Water	H ₂ O	Balance	7732-18-5

3. Hazards Identification

Emergency Overview:

- Toxicity effects principally related to its corrosive properties.
- Supports combustion of other substances (oxidizing product).

3.1 Route of Entry: Inhalation: Yes Skin: Yes Ingestion: Yes

3.2 Potential Effects of exposure:

- Corrosive to mucous membranes, eyes and skin.
- The seriousness of the lesions and the prognosis of intoxication depend directly on the concentration and duration of exposure.

Inhalation:

- Severe Irritation of the nose and throat.
- Spasmodic cough and difficulty in breathing.
- Risk of chemical pneumonitis and pulmonary edema.
- In case of repeated or prolonged exposure: risk of sore throat, nosebleeds, chronic bronchitis.

Eyes:

- Severe eye irritation, watering, redness and swelling of the eyelids.
- Burns.
- Risk of serious or permanent eye lesions.
- Risk of blindness.

Skin contact:

- Painful irritation, redness and swelling of the skin.
- Risk of severe burns.

Ingestion:

- May be fatal if swallowed.
- Low probability of risk (stinging odor).
- Paleness and cyanosis of the face.
- Severe irritation, burns, perforation of the gastrointestinal tract accompanied by shock.
- Excessive fluid in the mouth and nose, with risk of suffocation.
- Risk of throat edema and suffocation.
- Bloating of stomach, belching.
- Nausea and vomiting (bloody).
- Cough and difficulty breathing.
- Risk of chemical pneumonitis and pulmonary edema.

Carcinogenicity: See section 11.3.

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4. First-Aid Measures

General Recommendations:

- Personal protective equipment for rescuers (see Section 8).
- In case of product splashing into the eyes and face, treat eyes first.
- Do not dry soiled clothing near an open flame or incandescent heat source.
- Submerge soiled clothing in a basin of water.

4.1 Inhalation:

- Remove the subject from the contaminated area as soon as possible; transport him/her lying down, with the head higher than the body, to a quiet, uncontaminated and well-ventilated location.
- Oxygen or pulmonary resuscitation if necessary.
- Consult a physician immediately in all cases.
- Keep warm (blanket).

Eyes:

- Flush eyes as soon as possible with running water for 15 minutes, while keeping eyelids open.
- In the case of difficulty of opening the lids, administer an analgesic eyewash (e.g. oxybuprocaine).
- Consult an ophthalmologist immediately in all cases.
- Take to hospital immediately.

Skin:

- Remove contaminated shoes, socks and clothing, under the shower if necessary; wash affected skin with running water.
- Keep warm (blanket); provide clean clothing.
- Consult a physician immediately in all cases.

Ingestion:

- Consult a physician immediately in all cases.
- Take to a hospital.

If the subject is completely conscious:

- Rinse mouth and administer fresh water.
- Do not induce vomiting.

If the subject is unconscious:

- NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.
- Loosen collar and tight clothing; lay the victim on his/her left side.
- Oxygen or pulmonary resuscitation if necessary.
- Keep warm (blanket).

4.2 Medical Treatment/Notes to Physician:

Inhalation:

- Pulmonary resuscitation (oxygen therapy).
- If necessary, tracheal intubation.
- Prevention or treatment of shock, pulmonary edema and bacterial secondary infection.

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Eyes:

- Seek advice of an ophthalmologist.
- Medical surveillance for one to two weeks.

Skin: Usual treatment for burns.

Ingestion:

- Oxygen therapy via intra-tracheal intubation.
- If necessary, tracheotomy.
- Placement of gastric catheter to release stomach gases.
- Avoid gastric washing (risk of perforation).
- In cases of intense pain: inject an I.M. morphomimetic analgesic drug (e.g. piritramide) before taking to hospital.
- Prevention or treatment of shock and pulmonary edema.
- Urgent digestive endoscopy with aspiration of the product.
- Treatment of gastrointestinal tract burns and resulting effects.

5. Fire-Fighting Measures

5.1 Flash point: > 212°F (> 100°C).

Method: Closed Cup.

5.2 Auto-ignition Temperature: Non-flammable.

5.3 Flammability Limits: Non-flammable.

5.4 Unusual Fire and Explosion Hazards: Flammable vapors may occur above SADT.

5.5 Extinguishing Methods

Common: Large quantities of water, water spray.

Inappropriate extinguishing means: No restriction.

5.6 Fire Fighting Procedures**Specific hazards:**

- Oxidizer (see Section 9).
- Oxygen released on exothermic decomposition may support combustion in case of surrounding fire.
- Oxidizing agent, may cause spontaneous ignition of combustible materials.
- Contact with flammables may cause fires or explosions.
- Pressure burst may occur due to decomposition in confined spaces/containers.

Protective measures in case of intervention:

- Evacuate all non-essential personnel.
- Intervention only by capable personnel who are trained and aware of the hazards of the product.
- Wear self-contained breathing apparatus when in close proximity or in confined spaces.
- After intervention, take a shower, remove clothing carefully, clean and check equipment.
- Fire fighters must wear fire-resistant personal protective equipment.

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Other precautions:

- If safe to do so, remove the exposed containers, or cool with large quantities of water.
- Stay upwind.
- Stay at safe distance in a protected location sheltered from possible projectiles.
- Never approach containers which have been exposed to fire, without cooling them sufficiently.

6. Accidental Release Measures

6.1 Precautions:

- Follow the protective measures given in sections 5 & 8.
- Isolate the area.
- Stay upwind.
- Keep away materials and products which are incompatible with the product (see Section 10).
- If safe to do so without exposing personnel, try to stop the leak.
- In case of contact with combustible materials, avoid product drying out, by dilution with water.

6.2 Cleanup methods:

- If possible, dam large quantities of liquid with sand or earth.
- Dilute with large quantities of water.
- Do not add chemical products.
- For disposal methods, refer to Section 13.
- In order to avoid the risk of contamination, the recovered product must not be returned to the original tank/container.

6.3 Precautions for protection of the environment:

- Do not discharge into the environment (sewers, rivers, soils ...).
- Immediately notify the appropriate authorities in case of a reportable spill.

7. Handling and Storage

7.1 Handling:

- Operate in a well-ventilated area.
- Keep away from heat sources.
- Keep away from incompatible products.
- Prevent all contact with organics.
- Use only equipment materials which are compatible with the product.
- Before all operations, passivate the piping circuits and vessels according to the procedure recommended by Solvay Chemicals, Inc.
- Never return unused product to container.
- Ensure that an adequate supply of water is available in the event of an accident.
- Containers and equipment used to handle the product should be used exclusively for that product.

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7.2 Storage:

- Store in a ventilated, cool area.
- Keep away from heat sources.
- Keep away from incompatible products.
- Keep away from combustible substances.
- Keep in a container fitted with a safety valve or vent.
- Keep in original packaging, closed.
- Provide a containment dike around storage containers and transfer installation.
- Regularly check the condition and temperature of the containers.
- For bulk storage, consult Solvay Chemicals, Inc.

7.3 Specific Uses: See Section 1.2.

7.4 Other precautions:

- Warn personnel about the dangers of the product.
- Observe the protective measures given in Section 8.
- Do not confine the product in piping, between closed valves or in a container without a vent.
- In industrial installations, apply the rules for the prevention of major accidents (consult an expert).

7.5 Packaging:

- Stainless steel, cleaned and passivated.
- Approved grades of HDPE.

8. Exposure Controls/Personal Protection

8.1 Exposure Limit Values:

Authorized Limit Values	TLV® ACGIH®-USA (2002)	OSHA PEL	NIOSH REL (1994)	SAEL (2003)
Hydrogen peroxide	1 ppm TWA	1 ppm TWA	1 ppm TWA	
	1.4 mg/m³ TWA	1.4 mg/m³ TWA	1.4 mg/m³ TWA	
Acetic acid	10 ppm TWA	10 ppm TWA	10 ppm TWA	
	25 mg/m³ TWA	25 mg/m³ TWA	25 mg/m³ TWA	
	15 ppm STEL/CEIL (C) 37 mg/m³ STEL/CEIL (C)		15 ppm STEL/CEIL (C) 37 mg/m³ STEL/CEIL (C)	
Peracetic acid				0.15 ppm
				0.5 mg/m³

ACGIH® and TLV® are registered trademarks of the American Conference of Governmental Industrial Hygienists.

SAEL is Solvay Acceptable Exposure Limit, Time-Weighted Average for 8-hour workdays.

No Specific TLV-STEL (Short Term Exposure Level) has been set. Excursions in exposure level may exceed 3 times the TLV-TWA for no more than a total of 30 minutes during a workday and under no circumstances should they exceed 5 times the TLV-TWA.

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8.2 Exposure Controls:

8.2.1 Occupational Exposure Controls:

8.2.1.1 Ventilation: Premises ventilation.

8.2.1.2 Respiratory protection: NIOSH-approved full-face air-line respirator for excessive concentrations.

8.2.1.3 Hand protection: Protective gloves - chemical resistant (butyl rubber).

8.2.1.4 Eye protection:

- Wear protective goggles for all industrial operations.
- If risk of splashing, chemical-proof goggles/face shield.

8.2.1.5 Skin protection:

- Coveralls.
- Chemical-resistant slicker suit and boots, if risk of splashing.

8.3 Other precautions:

- Provide shower and eyewash stations.
- Consult a health and safety expert for the selection of personal protective equipment suitable for the working conditions.

9. Physical and Chemical Properties

9.1 Appearance: Liquid.

Color: Colorless.

Odor: Pungent.

9.2 Important Health, Safety and Environmental information:

pH: <1 (apparent pH).

Change of state:

Melting point: -40.3° to -42.0°C (-40.5° to -43.6°F).

Boiling point: Not applicable, product decomposes.

Decomposition Temperature: Self-accelerating decomposition (SADT) with oxygen release starting from 55°C (131°F).

Flash Point: > 212°F (> 100°C) (**Method: Closed Cup**).

Flammability: Flammable vapors may occur above the SADT.

Explosive Properties: Not applicable.

Oxidizing Properties: Oxidizer.

Vapor Pressure: No data.

Relative Density:

Specific gravity (H₂O=1): 1.11.

Solubility:

Water: Miscible in all proportions.

Fat: No data.

Soluble in polar organic solvents.

Slightly soluble in aromatic solvents.

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Partition coefficient: P (n-octanol/water): -1.25.

Viscosity: No data.

Vapor Density (air=1): No data.

Evaporation Rate: No data.

10. Stability and Reactivity

Stability: Stable under normal conditions of use with slow gas release.

10.1 Conditions to avoid: Heat/Sources of heat.

10.2 Materials and substances to avoid:

- Acids.
- Bases.
- Metals.
- Salts of metals.
- Reducing agents.
- Organic materials.
- Flammable substances.

10.3 Hazardous decomposition products: Oxygen.

10.4 Hazardous Polymerization: Not applicable.

10.5 Other information: Decomposition releases steam/noxious fumes/heat.

11. Toxicological Information

11.1 Acute toxicity:

Inhalation: LC₅₀, one hour, rat, 590 mg/m³.

Oral: LD₅₀ rat, 652 mg/kg (12% solution).

Dermal: LD₅₀, rabbit, 1957 mg/kg (12% solution).

Irritation:

- Rabbit, serious damage (eyes) (4% solution).
- Rabbit, corrosive (skin).
- Inhalation, rat, Respiratory irritation (RD₅₀), 22 to 24 mg/m³.

Sensitization: Guinea Pig, Non-sensitizing (skin).

Comments: Toxic effect linked with corrosive properties.

11.2 Chronic toxicity:

- Mutagenic effect in vitro but not in vivo.
- Oral route, after repeated exposure, rat, no systemic effect.
- Dermal route, after repeated exposure, guinea pig, ≥ 0.12% solution, irritating effect.
- Inhalation, after single exposure, rat, 5 mg/m³, irritating effect.
- No carcinogenic effect.

11.3 Carcinogenic Designation: None.

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12. Ecological Information

12.1 Acute ecotoxicity:

- Fish, *Salmo gairdneri*, LC₅₀, 96 hours, 13 mg/L.
- Conditions: Fresh water, 15% peracetic acid solution.
- Fish, *Salmo gairdneri*, NOEC, pigmentation, < 10 mg/L.
- Fish, *Pleuronectes platessa*, LC₅₀, 96 hours, 89.1 mg/L.
- Conditions: Salt water, 12% peracetic acid solution.
- Fish, *Pleuronectes platessa*, NOEC, 56 mg/L.
- Crustaceans, *Daphnia magna*, EC₅₀, 48 hours, 3.3 mg/L.
- Conditions: Fresh water, 15% peracetic acid solution.
- Crustaceans, *Daphnia magna*, NOEC, 1 mg/L.
- Crustaceans, *Crangon*, EC₅₀, 96 hours, 126.8 mg/L.
- Conditions: Salt water, 12% peracetic acid solution.
- Crustaceans, *Crangon*, NOEC, 56 mg/L.
- Algae, various species, EC₅₀, 72 to 96 hours, 0.7 to 16 mg/L.
- Bacteria, *Pseudomonas aeruginosa*, EC₁₀₀, 5 minutes, 5 mg/L.

12.2 Chronic ecotoxicity:

- Fish, various species, LC₅₀, No data.
- Fish, various species, NOEC, No data.
- Terrestrial plants, various species, LOEC, phytotoxicity, 10 mg/L.
- Result: phytotoxic effect.

12.3 Mobility:

- Air - non-significant volatility.
- Water - considerable solubility and mobility.
- Soils - non-significant adsorption.
- Sediments - non-significant adsorption.

12.4 Degradation

Abiotic:

- Air - significant photolysis.
- Water, t_{1/2} 120 hours - significant hydrolysis.
- Degradation products: acetic acid and hydrogen peroxide. Kinetic as a function of temperature, dilution, presence of impurities (0.2% solution).
- Soil, 99%, 20 minutes - significant degradation. Test substance: 1% solution.

Biotic:

- Aerobic, test: ready biodegradability/closed bottle.
- Result: non-biodegradable.
- Aerobic, test: intrinsic biodegradability, >70%, 28 days.
- Conditions: test concentration: 2 - 5 ppm / adapted culture.
- Anaerobic - No data.
- Effects on biological treatment plants, 90 mg/L.
- Result: inhibitory action.
- Effects on biological treatment plants.
- Result: BOD increase of treated effluent by acetic acid formation.

12.5 Potential for bioaccumulation: Result: non-bioaccumulable.

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12.6 Other adverse effects /Comments:

- Toxic for aquatic organisms.
- Nevertheless, hazard for the environment is limited due to product properties.
 - No bioaccumulation.
 - Considerable abiotic and biotic degradability.
 - Weak persistence of degradation products.

13. Disposal Considerations

13.1 Waste treatment:

- **Pesticide Disposal:** Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide spray mixture or rinsate is a violation of Federal law. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, or public waters unless the components of this product are specifically identified and addressed in a NPDES permit. Do not discharge effluent containing this product into sewer systems without previously notifying the sewage plant authority.
- Consult current federal, state and local regulations regarding the proper disposal of this material.

13.2 Packaging treatment:

- **Container Disposal:** Triple rinse (or equivalent). Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill or incinerator or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.
- To avoid waste generation, as far as possible, use dedicated containers.
- Empty containers are a source of hazard until they have been effectively cleaned. They must be handled and stored accordingly.
- The empty and clean containers are to be reused in conformity with regulations.
- Containers that cannot be cleaned must be treated as waste.
- Consult current federal, state and local regulations regarding the proper disposal of emptied containers.

13.3 RCRA Hazardous Waste: Listed as D001 (Ignitability), D002 (Corrosivity).

14. Transport Information

Mode	DOT	IMDG	IATA
UN Number	UN 3109	UN 3109	UN 3109
Class (Subsidiary)	5.2(8)	5.2	5.2
Proper Shipping Name	Organic peroxide, type F, liquid (Peroxyacetic Acid, 12%)	Organic peroxide, type F, liquid (Peroxyacetic Acid, 12%)	Organic peroxide, type F, liquid (Peroxyacetic Acid, 12%)
Hazard label (Subsidiary)	Organic peroxide (Corrosive)	Organic peroxide (Corrosive)	Organic peroxide (Corrosive)
Placard (Subsidiary)	Organic peroxide (Corrosive)	5.2 + 8	
Packing Group	II	II	II
MFAG			
Emergency Info	ERG 145	EmS: 5.2-01	ERG Code: 5L

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15. Regulatory Information

National Regulations (US)

TSCA Inventory 8(b): Yes.

SARA Title III Sec. 302/303 Extremely Hazardous Substances (40 CFR 355): Yes.

- Reportable quantity - 500 lbs.
- Threshold planning quantity - 5,000 lbs.

SARA Title III Sec. 311/312 (40 CFR 370):

- Hazard Category Yes,
 - Fire Hazard, Immediate Health hazard.
 - Threshold planning quantity - 500 lbs.

SARA Title III Sec. 313 Toxic Chemical Emissions Reporting (40 CFR 372): Yes.

CERCLA Hazardous Substance (40 CFR Part 302)

Listed: Yes (Acetic Acid), Reportable Quantity 5000 lbs.

Unlisted Substance: Yes, Reportable Quantity 100 lbs.

Characteristic: Ignitability (D001), Corrosivity (D002).

Other: Occupational Safety and Health Administration (OSHA) requirements for process safety management must be followed anytime at least 1,000 lbs. of peracetic acid or > 60% acetic acid are used or stored. Refer to 29 CFR 1910.119 for specific details.

Environmental Protection Agency (EPA) requirements for a Risk Management Plan (RMP) must be followed anytime at least 10,000 lbs. of peracetic acid is used or stored. Refer to 40 CFR 68.150 for specific details.

Solvay Chemicals, Inc. peracetic acid formulations as packaged have a partial pressure of peracetic acid less than 10 mm of mercury (mmHg) up to 60°C (140°F) and therefore need not be considered when determining threshold quantities for RMP. Refer to 40 CFR 68.115 (b) (1) for details.

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State Component Listing:

CA	Airborne Contaminants & Emissions Inventory (PAA, H ₂ O ₂ , AA)
CA	Hazardous Substance List (H ₂ O ₂ , AA)
CT	Hazardous Material Safety (PAA, H ₂ O ₂ , AA)
IL	Chemical Safety Act (PAA, H ₂ O ₂ , AA)
IL	Toxic Substances Disclosure to Employees Act (AA)
IN	Occupational Health & Safety Standards - Air (H ₂ O ₂ , AA)
KY	Occupational Health & Safety Standards - Air (H ₂ O ₂ , AA)
LA	Right to Know List (PAA, H ₂ O ₂ ,)
LA	Spill Reporting (PAA, H ₂ O ₂ , AA)
MA	Oil and Hazardous Materials List (PAA, H ₂ O ₂ , AA)
MA	Right to Know Substance List (PAA, H ₂ O ₂ , AA)
MN	Hazardous Substance List (H ₂ O ₂ , AA)
NJ	Right to Know Substance List (PAA, H ₂ O ₂ , AA)
NJ	Spill Tax List (PAA, H ₂ O ₂ , AA)
NJ	Toxic Catastrophe Prevention Act (PAA)
NC	Exposure Limits for Air Contaminants (H ₂ O ₂ , AA)
NY	Release Reporting List of Hazardous Substances (PAA, H ₂ O ₂ , AA)
PA	Right to Know (PAA, H ₂ O ₂ , AA)
RI	Right to Know Act (PAA, H ₂ O ₂ , AA)

National Regulations (Canada)

Canadian DSL Registration: DSL.

WHMIS Classification: C Oxidizing material.
E Corrosive.
F Dangerously reactive material.

This product has been classified in accordance with the hazard criteria of the **Controlled Products Regulations**, and the MSDS contains all the information required by the **Controlled Products Regulations**.

Labeling according to Directive 1999/45/EC.

Symbols	O	Oxidizing.
	C	Corrosive.
Phrases R	7	May cause fire.
	20/21/22	Harmful by inhalation, in contact with skin and if swallowed.
	35	Causes severe burns.
Phrases S	3/7	Keep container tightly closed in cool place.
	14.6	Keep away from combustible materials, acids, reducing agents and metal salts.
	26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
	36/37/39	Wear suitable protective clothing, gloves, and eye/face protection.
	45	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

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16. Other Information

16.1 Ratings:

NFPA (NATIONAL FIRE PROTECTION ASSOCIATION)

Health = 3 Flammability = 1 Instability = 2 Special = OX

HMS (HAZARDOUS MATERIAL INFORMATION SYSTEM)

Health = 3 Fire = 1 Reactivity = 2 PPE = Supplied by User; dependent on local conditions

16.2 Other Information:

The previous information is based upon our current knowledge and experience of our product and is not exhaustive. It applies to the product as defined by the specifications. In case of combinations or mixtures, one must confirm that no new hazards are likely to exist. In any case, the user is not exempt from observing all legal, administrative and regulatory procedures relating to the product, personal hygiene, and integrity of the work environment. (Unless noted to the contrary, the technical information applies only to pure product).

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16.3 Reason for revision:

Supersedes edition: Solvay Interlox, Inc. MSDS #ZIPAAWW12-05 dated 1 March 2002

Purpose of revision: Change Company name and MSDS format