



BIO/TEC 14

Material Safety Data Sheet

Revision Date: November 20, 2007

1. IDENTIFICATION OF THE PRODUCT AND THE COMPANY

Product Name: BIO/TEC 14
Manufactured by: Southwest Engineers
Supplier: Coolant Control, Inc
 5353 Spring Grove Ave
 Cincinnati, OH 45217
Telephone: (513) 471-8770
Fax: (513) 242-4488
Emergency Number: (800) 424-9300 - Chemtrec

Health =	3	Hazard Ratings:	0 = Least
Fire =	1		1 = Slight
Reactivity =	0		2 = Moderate
			3 = High
			4 = Extreme

2. HAZARDOUS COMPONENTS

Product composition contains the following hazardous components reportable under OSHA Regulation 29 CFR 1910.1200:

INGREDIENT	% Weight	CAS #	Mfg's Recommended TWA/STEL
5-Chloro-2-methyl-4-isothiazolin-3-one	~10.8	26172-55-4	0.1 mg/m ³ total isothiazolinone TWA 0.3 mg/m ³ total isothiazolinone STEL
2-Methyl-4-isothiazolin-3-one	~3.8	2682-20-4	0.1 mg/m ³ total isothiazolinone TWA 0.3 mg/m ³ total isothiazolinone STEL
Magnesium nitrate	~18.5	10377-60-3	None established
Magnesium chloride	~5.7	7786-30-3	None established

3. PHYSICAL DATA

Specific Gravity:	1.20 @ 25°C
Boiling Point (760 mm Hg):	Not known
Melting Point:	-26°C
pH:	1.5 - 3.0
Vapor Pressure at 20°C (mm of Hg):	Not known
Vapor Density (Air = 1):	Not known
Water Solubility:	Soluble
% Volatile by volume:	62 (water)
Evaporation Rate (Butyl Acetate = 1):	<1 (water)
Viscosity:	Not known
VOC:	0% (calculated)
Appearance and Odor:	Amber liquid with a mild odor

4. FIRE AND EXPLOSION

Flash Point (and Method):	>200°F
Recommended Extinguishing Media:	Foam, Carbon Dioxide, Dry Chemical, Water
Special Fire Fighting Procedures:	Must wear NIOSH/MSHA approved self-contained breathing apparatus and protective clothing. Cool fire-exposed containers with water spray.
Unusual Fire/Explosion Hazards:	Products of combustion are toxic. Product is corrosive to skin and to metal. At high temperatures, product may release toxic vapors/mists of hydrogen chloride and isothiazolin compounds.

5. HEALTH INFORMATION

Primary Routes of Entry:	Skin contact, Eye Contact, Inhalation
Effects of Overexposure:	Based on the available animal toxicity information for this and related materials, it is anticipated that this material will produce severe skin or eye irritation and/or burns and possible irreversible damage upon direct contact. Inhalation of mists of this product may be harmful or fatal. Repeated or prolonged contact with this material may produce allergic reactions.
Aggravation of Existing Conditions:	Individuals pre-disposed to allergic skin reactions.

6. EMERGENCY FIRST AID

Eye Contact:	Flush eyes with large amounts of running water for at least 15 minutes. Hold eyelids apart to ensure rinsing of the entire surface of the eye and lids with water. Get immediate medical attention. If physician not available, flush for additional 15 minutes and then transport victim to medical care.
Skin Contact:	Wash with large amounts of running water, and soap, if available, for 15 minutes. Remove contaminated clothing and shoes. Get immediate medical attention. Wash clothing and decontaminate shoes before reuse.
Inhalation:	Remove from area to fresh air. If not breathing, clear airway and start artificial respiration. If victim is having trouble breathing, give supplemental oxygen, if available. Get immediate medical attention.
Ingestion:	If swallowed, immediately give 3-4 glasses of water. DO NOT induce vomiting. If vomiting occurs, give fluids again. Get immediate medical attention. Have physician determine if patient's condition allows induction of vomiting or evacuation of stomach. Do not give anything by mouth to an unconscious or convulsing person.

7. CARCINOGENICITY

Listed as Carcinogen:	National Toxicology Program - No IARC Monographs - No OSHA - No
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8. REACTIVITY DATA

Stability:	Stable
Conditions to Avoid:	Temperatures above 130° F (Product is stable for at least six (6) months at 130°F), light (active ingredient is decomposed by UV light). (CTFA-CIR Report)
Incompatibility with Other Materials:	Oxidizing and reducing agents, amines, mercaptans
Hazardous Decomposition Products:	Thermal decomposition may produce toxic vapors/fumes of hydrogen chloride, organic materials, and oxides of carbon, nitrogen and sulfur.
Hazardous Polymerization:	Will not occur
Conditions to Avoid:	None known

9. SPILL OR LEAKAGE PROCEDURES

Procedures if Material is Spilled or Released:	<p>WARNING: KEEP SPILLS AND CLEAN-UP RESIDUALS OUT OF MUNICIPAL SEWERS AND OPEN BODIES OF WATER. Absorb the spill with spill pillows or inert solids such as clay or vermiculite, and transfer contaminated materials to suitable containers for recovery or disposal. Deactivate spill area with freshly prepared solution of 5% Sodium bicarbonate and 5% sodium hypochlorite in water. Apply solution to the spill area at a ratio of 10 volumes deactivation solution per estimated volume of residual spill to deactivate any residual active ingredient. Let stand for 30 minutes. Flush the spill area with copious amounts of water to chemical sewer (if in accordance with local procedures, permits and regulations). DO NOT add deactivation solution to the waste pail to deactivate the absorbed material. See Waste Disposal Procedures below for information regarding the disposal of contained materials.</p>
Waste Disposal Procedures:	<p>Dispose of in compliance with all Federal, state and local laws and regulations. Incineration is the preferred method. Material to be disposed of is classified as a D002 hazardous waste with a reportable quantity (RQ) of 100 pounds of total isothiazolinone.</p>
Personal Protection:	<p>Wear a NIOSH-approved (or equivalent) respirator (with organic vapor/acid gas cartridge and a dust/mist filter) during spill cleanups and deactivation of this material. Wear protective clothing including splash proof goggles and rubber overshoes.</p> <p>MATERIAL IS CORROSIVE. Protective clothing including chemical splash goggles, nitrile or butyl full-length gloves, rubber apron, or clothing made of nitrile or butyl rubber, and rubber overshoes must be worn during spill cleanups and deactivation of this material. If material comes in contact with the skin during cleanup operations, IMMEDIATELY remove all contaminated clothing and wash exposed skin areas with soap and water. See Section 6, Emergency First Aid Procedures for further information.</p>

10. SPECIAL PROTECTION INFORMATION

Respiratory Protection:	In processes where mists or vapors may be generated, a NIOSH/MSHA jointly approved respirator is advised in the absence of proper environmental controls.
Ventilation:	In processes where mists or vapors may be generated, proper ventilation must be provided in accordance with good ventilation practices.
Protective Gloves:	Rubber or neoprene, to prevent skin contact.
Eye Protection:	Wear chemical splash goggles where there is a potential for eye contact. Use safety glasses with side shields under normal use conditions.
Other Protective Equipment:	Eye wash; safety shower; protective clothing (long sleeves, coveralls or other, as appropriate), to prevent skin contact.

11. ADDITIONAL PRECAUTIONS

Precautions to be Taken in Handling and Storage:	Keep container tightly closed until used. Store in dark colored or opaque containers between 32°F and 130°F in a dark, well-ventilated place. Do not store in unlined metal containers. Open containers slowly and carefully as there may be some pressure buildup. If product is in vented drums, keep drums upright to prevent leakage of material through the vent.
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12. TOXICOLOGICAL INFORMATION

The test results below are for this material as is, with approximately 14% total isothiazolinone compounds, unless otherwise noted. Those test results which indicate "as 100% active isothiazolinone" have been converted to a 100% active isothiazolinone basis.

Acute/Chronic Toxicity Test Data

Oral	LD50 (rat)	=	457 mg/kg
Dermal	LD50 (rabbit)	=	660 mg/kg
	LD50 (rabbit)	=	4.5 - 78.5 mg/kg (as 100% active isothiazolinone - CTFA CIR Report)
Eye Irritation	(rabbit)	=	Corrosive
Skin Irritation	(rabbit)	=	Severely irritating and corrosive (primary irritation index = 8.0)
Inhalation	LC50 (rat -4hr)	=	0.33 mg/l (as 100% active isothiazolinone)
Skin Sensitization	(human)	=	Allergic contact dermatitis has been observed (CTFA CIR Report)
	(human)	=	At maximum recommended level of use of 15 ppm (as 100% active isothiazolinone) in cosmetics, the tested material was neither a sensitizer nor a photosensitizer. (CTFA CIR Report)

Ecotoxicity Test Data (all are as 100% active isothiazolinone)

Oral	LD50 (Bobwhite Quail)	=	65 mg/kg
8 day dietary	LC50 (Bobwhite Quail)	=	3536 ppm

12. TOXICOLOGICAL INFORMATION - Continued

	LC50 (Mallard Duck) = 945 ppm LC50 (Peking Duck) = >530 ppm
96 hour	LC50 (Rainbow Trout) = 0.19 ppm LC50 (Bluegill Sunfish) = 0.28 ppm LC50 (Sheepshead Minnow) = 0.3 ppm LC50 (Fiddler Crab) = 59 ppm LC 50 (Sand Shrimp) = 0.55 ppm
48 hour	EC50 (Daphnia Magna) = 0.16 ppm EC50 (Eastern Oyster) = 28 ppb LC50 (Bay Mussel Embryo/Larvae) = 14 ppb

13. TRANSPORTATION INFORMATION

DOT Information: Corrosive Liquid, Toxic, N.O.S.
(Contains Chloro-Methyl-Isothiazolin-One) 8,
6.1, UN 2922, PG II

14. REGULATORY INFORMATION

Comprehensive Environmental Response Compensation, and Liability Act of 1980 (CERCLA) requires notification of the National Response Center of release of quantities of Hazardous Substances equal to or greater than the reportable quantities (RQs) in 40 CFR 302.4.

Components present in this product at a level which could require reporting under the statute are:

NONE KNOWN

Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires emergency planning based on Threshold Planning Quantities (TPQs) and release reporting based on Reportable Quantities (RQs) in 40 CFR 355 (used for SARA 302, 304).

Components present in this product at a level which could require reporting under the statute are:

NONE KNOWN

Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires emergency planning based on Threshold Planning Quantities (TPQs) and release reporting based on Reportable Quantities (RQs) in 40 CFR 355 (used for SARA 311, 312)

Components present in this product at a level which could require reporting under the statute are:

<u>Chemical</u>	<u>CAS Number</u>	<u>Hazard* Categories</u>
5-Chloro-2-methyl-4-isothiazolin-3-one	26172-55-4	A
2-Methyl-4-isothiazolin-3-one	2682-20-4	A
Magnesium nitrate	10377-60-3	A, R

- The five hazard categories are as follows: F = Fire Hazard, S = Sudden Release of Pressure, R = Reactive, A = Immediate (Acute) Health Hazard, C = Delayed (Chronic) Health Hazard

14. REGULATORY INFORMATION - Continued

Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires submission of annual reports of release of toxic chemicals that appear in 40 CFR 372 (for SARA 313). This information must be included in all MSDSs that are copied and distributed for this material.

Components present in this product at a level which could require reporting under the statute are:

<u>Chemical</u>	<u>CAS Number</u>	<u>Typical Max. Concentrations</u>
Magnesium nitrate	10377-60-3	18.5%

Toxic Substances Control Act (TSCA) STATUS:

Not found on EPA TSCA inventory.

This product is registered only for biocide/pesticide use under EPA FIFRA and FDA regulated products. It may also be used for research and development (R&D) only by technically qualified individuals.

STATE RIGHT-TO-KNOW REGULATIONS:

CALIFORNIA Proposition 65: This product contains materials which the State of California has found to cause cancer, birth defects or other reproductive harm.

Components present in this product at a level which could require reporting under the statute are:

<u>Ingredient Name</u>	<u>CAS Number</u>	<u>Typical Max. Concentration</u>
Dimethylnitrosamine	62-75-9	Trace

MASSACHUSETTS: The following components of this material are included in the Massachusetts' Substance List and are present at or above reportable levels.

<u>Chemical</u>	<u>CAS Number</u>	<u>Typical Max. Concentrations</u>
Magnesium nitrate	10377-60-3	18.5%

MICHIGAN Critical Materials: The following components of this material are included in the Michigan Critical Materials List.

NONE KNOWN

NEW JERSEY: The following components of this material are included in the New Jersey Hazardous Substance List and are present at or above reportable levels.

<u>Chemical</u>	<u>CAS Number</u>	<u>Typical Max. Concentration</u>
Magnesium nitrate	10377-60-3	18.5%
5-Chloro-2-methyl-4-isothiazolin-3-one	26172-55-4	10.5%
2-Methyl-4-isothiazolin-3-one	2682-20-4	3.7%

PENNSYLVANIA: The following components of this material are included in the Pennsylvania Hazardous Substance List and are present at or above reportable levels.

<u>Chemical</u>	<u>CAS Number</u>	<u>Typical Max. Concentrations</u>
Magnesium nitrate	10377-60-3	18.5%

The information herein is presented in good faith and believed to be correct as of the date hereof. However, Southwest Engineers makes no representation as to the completeness and accuracy thereof. Users must make their own determination as to the suitability of the product for their purposes prior to use.

No representations or warranties, either expressed or implied, of merchantability, fitness for a particular purpose or of any other nature with respect to the product or to the information herein is made. Southwest Engineers shall in no event be responsible for any damages of whatsoever nature directly or indirectly resulting from the publication or use or reliance upon information contained herein.

FOR FURTHER INFORMATION CONTACT:

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