Birex$^{SE®}$

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 1: Identification

1.1. Product Identifier

Product Form: Mixture

Product Name: Birex$^{SE®}$

Product Code: BI 024, BI 025, BI 048, BC 144, BI 004, BI 004IK, BI 013, BI 012

1.2. Intended Use of the Product

Use of the substance/mixture: Germicide, Fungicide, Virucide, Tuberculocide, Deodorizer, Cleaner, Detergent.
For industrial and institutional use.

1.3. Name, Address, and Telephone of the Responsible Party

Distributed by:
Biotrol
13705 Shoreline Court East
Earth City, MO 63045
1.800.822.8550

1.4. Emergency Telephone Number

Infotrac:
24-Hour Number- (U.S.) 1-800-535-5053
Outside U.S- 352-323-3500

SECTION 2: Hazards Identification

2.1. Classification of the Substance or Mixture

Classification (GHS-US)

Met. Corr. 1	H290
Skin Irrit. 2	H315
Eye Dam. 1	H318
Skin Sens. 1	H317

Full text of H-phrases: see section 16

2.2. Label Elements – This label is regulated by the EPA under FIFRA. Refer to Section 15.

GHS-US Labeling

Hazard Pictograms (GHS-US) :



GHS05 GHS07

Signal Word (GHS-US) : Danger

Hazard Statements (GHS-US) : H290 - May be corrosive to metals.
H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H318 - Causes serious eye damage.

Precautionary Statements (GHS-US) : P261 - Avoid breathing vapors, mist, or spray.
P264 - Wash hands, forearms, and other exposed areas thoroughly after handling.
P280 - Wear protective gloves, protective clothing, and eye protection.
P302+P352 - IF ON SKIN: Wash with plenty of water.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 - Immediately call a poison center or doctor.
P332+P313 - If skin irritation occurs: Get medical advice/attention.
P362 - Take off contaminated clothing and wash before reuse.
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations.

2.3. Other Hazards

Other Hazards: Exposure may aggravate those with pre-existing eye, skin, or respiratory conditions.

2.4. Unknown Acute Toxicity (GHS-US)

No data available

SECTION 3: Composition/Information On Ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%	Classification (GHS-US)
Phosphoric acid	(CAS No) 7664-38-2	15-17	Met. Corr. 1, H290 Skin Corr. 1B, H314 Eye Dam. 1, H318

2-Phenylphenol	(CAS No) 90-43-7	5-10	Comb. Dust, H232 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335
4-tert-Pentylphenol	(CAS No) 80-46-6	5-10	Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317
Isopropyl alcohol	(CAS No) 67-63-0	5-10	Flam. Liq. 2, H225 Eye Irrit. 2A, H319 STOT SE 3, H336
Sulfonic acids, C14-16-alkane hydroxy and C14-16-alkene, sodium salts	(CAS No) 68439-57-6	5-10	Skin Irrit. 2, H315 Eye Dam. 1, H318

Full text of H-phrases: see section 16

SECTION 4: First Aid Measures

4.1. Description of First Aid Measures

First-aid Measures General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
First-aid Measures After Inhalation: When symptoms occur: go into open air and ventilate suspected area. Call a POISON CENTER or doctor/physician if you feel unwell.
First-aid Measures After Skin Contact: Remove contaminated clothing. Drench affected area with water or soap and water for at least 15 minutes. Wash contaminated clothing before reuse. Obtain medical attention if irritation develops or persists.
First-aid Measures After Eye Contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing for at least 60 minutes. Immediately call a POISON CENTER or doctor/physician.
First-aid Measures After Ingestion: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/Injuries: Causes skin irritation. Causes serious eye damage. May cause an allergic skin reaction.
Symptoms/Injuries After Inhalation: May cause irritation to the respiratory tract.
Symptoms/Injuries After Skin Contact: Causes skin irritation. May cause an allergic skin reaction.
Symptoms/Injuries After Eye Contact: Causes serious eye damage. Redness, pain, swelling, itching, burning, tearing, and blurred vision.
Symptoms/Injuries After Ingestion: Ingestion is likely to be harmful or have adverse effects.
Chronic Symptoms: None expected under normal conditions of use.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention.

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing Media

Suitable Extinguishing Media: Dry powder, alcohol-resistant foam, water in large amounts, carbon dioxide (CO_2).
Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: Not flammable.
Explosion Hazard: Product is not explosive.
Reactivity: Hazardous reactions will not occur under normal conditions.

5.3. Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.
Firefighting Instructions: Use water spray or fog for cooling exposed containers. In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion. Do not breathe fumes from fires or vapors from decomposition. Do not allow run-off from firefighting to enter drains or water courses.
Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.
Hazardous Combustion Products: Carbon oxides (CO, CO_2). Corrosive vapors.

SECTION 6: Accidental Release Measures

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Avoid all eyes and skin contact and do not breathe vapor and mist.

6.1.1. For Non-emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).
Emergency Procedures: Evacuate unnecessary personnel.

6.1.2. For Emergency Responders

Protective Equipment: Equip cleanup crew with proper protection.
Emergency Procedures: Ventilate area.

6.2. Environmental Precautions

Prevent entry to sewers and public waters.

6.3. Methods and Material for Containment and Cleaning Up

For Containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.
Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Absorb spillage to prevent material damage. Cautiously neutralize spilled liquid. Do not take up in combustible material such as: saw dust or cellulosic material. Take up mechanically (sweeping, shoveling) and collect in suitable container for disposal.

6.4. Reference to Other Sections

See Section 8: Exposure Controls and Personal Protection.

SECTION 7: Handling And Storage

7.1. Precautions for Safe Handling

Additional Hazards When Processed: May be corrosive to metals.
Precautions for Safe Handling: Avoid contact with eyes, skin and clothing. Avoid breathing mist, spray, vapors. Use appropriate personal protection equipment (PPE).
Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work. Do not eat, drink or smoke when using this product. Wash contaminated clothing before reuse.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Storage Conditions: Store in a dry, cool and well-ventilated place. Keep container closed when not in use. Store in original container or corrosive resistant and/or lined container. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials. Storage areas should be periodically checked for corrosion and integrity.
Incompatible Products: Strong acids. Strong bases. Strong oxidizers. Alkalis. Metals.

7.3. Specific End Use(s)

Germicide, Fungicide, Virucide, Tuberculocide, Deodorizer, Cleaner, Detergent. For industrial and institutional use.

SECTION 8: Exposure Controls/Personal Protection

8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established Exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), NIOSH (REL), OSHA (PEL), Canadian provincial governments, or the Mexican government.

Phosphoric acid (7664-38-2)		
USA ACGIH	ACGIH TWA (mg/m³)	1 mg/m³
USA ACGIH	ACGIH STEL (mg/m³)	3 mg/m³
USA OSHA	OSHA PEL (TWA) (mg/m³)	1 mg/m³
USA NIOSH	NIOSH REL (TWA) (mg/m³)	1 mg/m³
USA NIOSH	NIOSH REL (STEL) (mg/m³)	3 mg/m³
USA IDLH	US IDLH (mg/m³)	1000 mg/m³

Isopropyl alcohol (67-63-0)		
USA ACGIH	ACGIH TWA (ppm)	200 ppm
USA ACGIH	ACGIH STEL (ppm)	400 ppm
USA ACGIH	ACGIH chemical category	Not Classifiable as a Human Carcinogen
USA OSHA	OSHA PEL (TWA) (mg/m³)	980 mg/m³
USA OSHA	OSHA PEL (TWA) (ppm)	400 ppm
USA NIOSH	NIOSH REL (TWA) (mg/m³)	980 mg/m³
USA NIOSH	NIOSH REL (TWA) (ppm)	400 ppm
USA NIOSH	NIOSH REL (STEL) (mg/m³)	1225 mg/m³
USA NIOSH	NIOSH REL (STEL) (ppm)	500 ppm
USA IDLH	US IDLH (ppm)	2000 ppm (10% LEL)

8.2. Exposure Controls

Appropriate Engineering Controls : Ensure all national/local regulations are observed. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas.

Personal Protective Equipment : Protective goggles. Gloves. Protective clothing. Insufficient ventilation: wear respiratory protection.



Materials for Protective Clothing : Chemically resistant materials and fabrics.
Hand Protection : Wear chemically resistant protective gloves.
Eye Protection : Chemical safety goggles.
Skin and Body Protection : Wear suitable protective clothing.
Respiratory Protection : If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn.
Environmental Exposure Controls : Avoid release to the environment.
Other Information : When using, do not eat, drink or smoke.

SECTION 9: Physical And Chemical Properties

9.1. Information on Basic Physical and Chemical Properties

Physical State : Liquid
Appearance : Yellow to Amber liquid
Odor : Mild and Pleasant

Odor Threshold	:	No data available
pH	:	1 (Concentrate) 2.6 (1:256 dilution)
Evaporation rate	:	No data available
Melting Point	:	No data available
Freezing Point	:	No data available
Boiling Point	:	No data available
Flash Point	:	This product did not sustain combustion according to the 49 CFR part 173 Appendix H Method of Testing for Sustained Combustibility test.
Auto-ignition Temperature	:	No data available
Decomposition Temperature	:	No data available
Flammability (solid, gas)	:	No data available
Vapor Pressure	:	No data available
Relative Vapor Density at 20 °C	:	No data available
Relative Density	:	No data available
Specific Gravity	:	1.108 g/ml
Solubility	:	Complete in water
Partition coefficient: n-octanol/water	:	No data available
Viscosity	:	No data available
Explosion Data – Sensitivity to Mechanical Impact	:	Not expected to present an explosion hazard due to mechanical impact.
Explosion Data – Sensitivity to Static Discharge	:	Not expected to present an explosion hazard due to static discharge.

9.2. Other Information

No additional information available

SECTION 10: Stability And Reactivity

10.1 Reactivity:

Hazardous reactions will not occur under normal conditions.

10.2 Chemical Stability:

Stable under normal conditions.

10.3 Possibility of Hazardous Reactions:

Hazardous polymerization will not occur.

10.4 Conditions to Avoid:

Direct sunlight, extremely high or low temperatures, open flames, sources of ignition and incompatible materials.

10.5 Incompatible Materials:

Strong oxidizers. Alkalis.

10.6 Hazardous Decomposition Products:

Carbon oxides (CO, CO2). Sulfur oxides.

SECTION 11: Toxicological Information

11.1. Information On Toxicological Effects

Birex® se
One-Step Germicidal Detergent

Acute Toxicity: Oral LD50 = 6,000 mg/kg (male rat); 4,330 mg/kg (female rat)

4-tert-Pentylphenol (80-46-6)	
LD50 Oral Rat	> 2000 mg/kg

Phosphoric acid (7664-38-2)	
LD50 Dermal Rabbit	2740 mg/kg
LC50 Inhalation Rat	> 850 mg/m³ (Exposure time: 1 h)

2-Phenylphenol (90-43-7)	
LD50 Oral Rat	2733 mg/kg
LD50 Dermal Rat	> 2000 mg/kg
LC50 Inhalation Rat	> 0.949 mg/l (Exposure time: 1 h)

Sulfonic acids, C14-16-alkane hydroxy and C14-16-alkene, sodium salts (68439-57-6)	
LD50 Oral Rat	2310 mg/kg
LD50 Dermal Rabbit	6300 mg/kg

Isopropyl alcohol (67-63-0)	
LD50 Oral Rat	4710 mg/kg
LD50 Dermal Rabbit	4059 mg/kg
LC50 Inhalation Rat	72600 mg/m³ (Exposure time: 4 h)

Skin Corrosion/Irritation: Causes skin irritation. Based on test data the product was not corrosive to skin. But was severely irritating at 1 and 4 hour exposures.
pH: 1 (Concentrate) 2.6 (1:256)
Serious Eye Damage/Irritation: Causes serious eye damage.

pH: 1 (Concentrate) 2.6 (1:256)
Respiratory or Skin Sensitization: May cause an allergic skin reaction.
Germ Cell Mutagenicity: Not classified
Teratogenicity: Not classified
Carcinogenicity: Not classified

2-Phenylphenol (90-43-7)	
IARC group	3

Isopropyl alcohol (67-63-0)	
IARC group	3

Reproductive Toxicity: Not classified
Specific Target Organ Toxicity (Single Exposure): Not classified
Specific Target Organ Toxicity (Repeated Exposure): Not classified
Aspiration Hazard: Not classified
Symptoms/Injuries After Inhalation: May cause irritation to the respiratory tract.
Symptoms/Injuries After Skin Contact: Causes skin irritation. Based on test data the product was not corrosive to skin. But was severely irritating at 1 and 4 hour exposures.
Symptoms/Injuries After Eye Contact: Causes serious eye damage. Redness, pain, swelling, itching, burning, tearing, and blurred vision.
Symptoms/Injuries After Ingestion: Ingestion is likely to be harmful or have adverse effects.
Chronic Symptoms: None expected under normal conditions of use.

SECTION 12: Ecological Information

12.1. Toxicity

Ecology - General : Toxic to aquatic life. Toxic to aquatic life with long lasting effects.

4-tert-Pentylphenol (80-46-6)	
LC50 Fish 1	1.87 - 3.34 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	2.7 mg/l (Daphnia magna)
LC 50 Fish 2	1.6 mg/l (Exposure time: 96 h - Species: Cyprinus carpio)
ErC50 (algae)	4.2 mg/l (96h, Pseudokirchneriella subcapitata)
NOEC chronic fish	0.1 mg/l

2-Phenylphenol (90-43-7)	
LC50 Fish 1	3.4 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	1 - 2.5 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
LC 50 Fish 2	2.74 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus)
ErC50 (algae)	3.57 mg/l (72h, Selenastrum capricornutum)
NOEC chronic fish	0.036 mg/l
NOEC chronic algae	0.468 mg/l Selenastrum capricornutum

Sulfonic acids, C14-16-alkane hydroxy and C14-16-alkene, sodium salts (68439-57-6)	
LC50 Fish 1	4.2 mg/l (Exposure time: 96 h - Species: Brachydanio rerio [static])
EC50 Daphnia 1	4.53 mg/l (Ceriodaphnia sp)
LC 50 Fish 2	12.2 mg/l (Exposure time: 96 h - Species: Brachydanio rerio [semi-static])
ErC50 (algae)	5.2 mg/l (Water quality - Marine Algal Growth Inhibition Test with Skeletonema costatum and Phaeodactylum tricornutum)

Isopropyl alcohol (67-63-0)	
LC50 Fish 1	9640 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	13299 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 Other Aquatic Organisms 1	1000 mg/l (Exposure time: 96 h - Species: Desmodesmus subspicatus)
LC 50 Fish 2	11130 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 Other Aquatic Organisms 2	1000 mg/l (Exposure time: 72 h - Species: Desmodesmus subspicatus)

12.2. Persistence and Degradability

Birex® se **One-Step Germicidal Detergent**	
Persistence and Degradability	Not established.

12.3. Bioaccumulative Potential

Birex® se **One-Step Germicidal Detergent**	
Bioaccumulative Potential	Not established.

2-Phenylphenol (90-43-7)	
Log Pow	3.18

Isopropyl alcohol (67-63-0)	
Log Pow	0.05 (at 25 °C)

12.4. Mobility in Soil

No additional information available

12.5. Other Adverse Effects

Other Information : Avoid release to the environment.

SECTION 13: Disposal Considerations

13.1. Waste treatment methods

Sewage Disposal Recommendations: This material is hazardous to the aquatic environment. Keep out of sewers and waterways.
Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, provincial, territorial and international regulations. This material may be considered a pesticide waste, contact competent authorities regarding pesticide waste disposal.
Additional Information: Empty containers may be recycled if allowed.

SECTION 14: Transport Information

14.1 In Accordance with DOT

Non-hazardous

SECTION 15: Regulatory Information

15.1 US Federal Regulations

Birex® se **One-Step Germicidal Detergent**	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard
EPA FIFRA Pesticide Product Notice	This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.
EPA FIFRA Signal Word	Danger
EPA FIFRA Hazard Statements	Keep out of reach of children.
EPA FIFRA Precautionary Statements	HAZARDOUS TO HUMANS AND DOMESTIC ANIMALS.

4-tert-Pentylphenol (80-46-6)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

Phosphoric acid (7664-38-2)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

2-Phenylphenol (90-43-7)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313	
SARA Section 313 - Emission Reporting	1.0 %

Sulfonic acids, C14-16-alkane hydroxy and C14-16-alkene, sodium salts (68439-57-6)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

Isopropyl alcohol (67-63-0)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313	
EPA TSCA Regulatory Flag	T - T - indicates a substance that is the subject of a Section 4 test rule under TSCA.
SARA Section 313 - Emission Reporting	1.0 % (only if manufactured by the strong acid process, no supplier notification)

15.2 US State Regulations

U.S. - California - Proposition 65 - Carcinogens List	WARNING: This product contains chemicals known to the State of California to cause cancer.

15.3. Canadian Regulations

Not applicable.

SECTION 16: Other Information, Including Date Of Preparation Or Last Revision

Revision date : 03/10/2015
Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text Phrases:

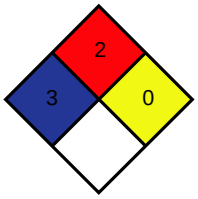
Acute Tox. 3 (Dermal)	Acute toxicity (dermal) Category 3
Acute Tox. 3 (Inhalation:gas)	Acute toxicity (inhalation:gas) Category 3
Acute Tox. 3 (Oral)	Acute toxicity (oral) Category 3
Acute Tox. 4 (Dermal)	Acute toxicity (dermal) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Carc. 2	Carcinogenicity Category 2
Comb. Dust	Combustible Dust
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Flam. Liq. 2	Flammable liquids Category 2
Met. Corr. 1	Corrosive to metals Category 1
Skin Corr. 1B	Skin corrosion/irritation Category 1B
Skin Irrit. 2	Skin corrosion/irritation Category 2
Skin Sens. 1	Skin sensitization Category 1
STOT SE 3	Specific target organ toxicity (single exposure) Category 3

H225	Highly flammable liquid and vapor
H232	May form combustible dust concentrations in air
H290	May be corrosive to metals
H301	Toxic if swallowed
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H319	Causes serious eye irritation
H335	May cause respiratory irritation
H336	May cause drowsiness or dizziness

NFPA Health Hazard : 3 - Short exposure could cause serious temporary or residual injury even though prompt medical attention was given.

NFPA Fire Hazard : 2 - Must be moderately heated or exposed to relatively high ambient temperature before ignition can occur

NFPA Reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



Supersedes: 23 April 2013
Date Revised: 24 April 2015

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.