



MSDS Number: 01688
Product Name: Pyronil® 45

Effective Date: 05/21/2004
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SECTION I - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Pyronil® 45
Manufacturer: Great Lakes Chemical Corporation
Address: P.O. Box 2200 City: West Lafayette
State: Indiana Zip: 47996-2200
Emergency Telephone Number: 1-800-949-5167
Information Telephone Number: 1-765-497-6100 Fax: 1-765-497-6123
Chemtrec Phone: 1-800-424-9300; Internationally call 703-527-3887
Effective Date: 05/21/2004 Supercede Date: None
MSDS Prepared By: Regulatory Affairs Department/Great Lakes Chemical Corporation
Synonyms: Phthalic acid, tetrabromo-, bis(2-ethylhexyl)ester; R-34
Product Use: Flame Retardant
Chemical Name: 1,2-Benzenedicarboxylic acid, 3,4,5,6-tetrabromo-, bis(2-ethylhexyl)ester
Chemical Family: Brominated aromatic ester

Additional Information

No information available

SECTION II - COMPOSITION/INFORMATION ON INGREDIENTS

Table with 4 columns: INGREDIENT NAME, CAS No., %, EXPOSURE LIMITS. Rows include Bis(2-ethylhexyl)tetrabromophthalate and Other reaction products and impurities.

*Indented chemicals are components of previous ingredient.

Additional Information

No information available

SECTION III - HAZARDS IDENTIFICATION

Emergency Overview: Amber liquid with viscosity of glycerine
Odor not available
Not acutely hazardous to health by ingestion, inhalation or skin absorption.
Relevant Routes of Exposure: Inhalation and ingestion.
Signs and Symptoms of Overexposure: General reddening and irritation to the skin and eyes.
Medical Conditions Generally Aggravated By Exposure: Dermatitis
Potential Health Effects: See Section XI for additional information.
Eyes: May cause slight eye irritation.
Skin: May cause mild skin irritation.

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SECTION III - HAZARDS IDENTIFICATION

Ingestion: Not expected to be a hazard in normal industrial use.
Inhalation: Not expected to be a hazard in normal industrial use.
Chronic Health Effects: None known

Carcinogenicity:

NTP:	No	ACGIH:	No
IARC:	No	OTHER:	No
OSHA:	No		

Additional Information

No information available

SECTION IV - FIRST AID MEASURES

Eyes: Flush with large volumes of water for at least 15 minutes. Get medical attention.
Skin: Wash with large volumes of soap and water for at least 15 minutes. If irritation develops, get medical attention.
Ingestion: If conscious, give person 1 to 2 glasses of water. Get medical attention immediately.
Inhalation: Remove person to fresh air. Get medical attention.
Antidotes: No information available
Notes to Physicians and/or Protection for First-Aiders: No information available

Additional Information

No information available

SECTION V - FIRE FIGHTING MEASURES

Flammable Limits in Air (% by Volume): Not available
Flash Point: >510 degrees F (>265 degrees C) (COC)
Autoignition Temperature: 797 degrees F (425 degrees C)
Extinguishing Media: All conventional media are suitable.
Fire Fighting Instructions: Wear a self-contained breathing apparatus and protective clothing to prevent skin and eye contact in fire situations.
Unusual Fire and Explosion Hazards: Under fire conditions, toxic and irritating fumes may be emitted.
Flammability Classification: Non-flammable liquid
Known or Anticipated Hazardous Products of Combustion: Hydrogen bromide and/or bromine
Carbon monoxide and carbon dioxide

Additional Information

No information available

SECTION VI - ACCIDENTAL RELEASE MEASURES

Accidental Release Measures: Wearing appropriate personal protective equipment, collect spill with the aid of an inert absorbent and place in suitable labeled containers for disposal.
Personal Precautions: See Section VIII.
Environmental Precautions: Avoid releasing to the environment.

Additional Information

No information available

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SECTION VII - HANDLING AND STORAGE

Handling: Use appropriate personal protection equipment.
Avoid eye, skin and clothing contact.
Do not breathe mist or vapor.
Avoid repeated and prolonged contact.

Storage: Store in a cool, dry, well-ventilated area away from incompatible materials.
Keep container tightly closed.

Other Precautions: No information available

Additional Information

No information available

SECTION VIII - EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: No information available

Ventilation Requirements: Use local exhaust to minimize misting and vapor.
Use mechanical ventilation for general area control.

Personal Protective Equipment:

Eye/Face Protection: Chemical safety glasses with side shields or chemical safety goggles

Skin Protection: Neoprene gloves
Clothing designed to minimize skin contact

Respiratory Protection: Wear a NIOSH/MSHA approved organic/acid gas cartridge respirator if misting or vapor occurs.
Consult the OSHA respiratory protection information located at 29CFR 1910.134 and the American National Standard Institute's Practices of Respiratory Protection Z88.2.

Other Protective Clothing or Equipment: No information available

Exposure Guidelines: See Section II.

Work Hygienic Practices: Wash thoroughly after handling.
Wash contaminated clothing before reuse.

Additional Information

No information available

SECTION IX - PHYSICAL & CHEMICAL PROPERTIES

Appearance:	Amber liquid with the viscosity of glycerine	Percent Volatile:	Not available
Boiling Point:	Not available	pH Value:	Not available
Bulk Density:	Not available	pH Concentration:	Not available
Color:	Amber	Physical State:	Liquid
Decomposition Temperature:	Not available	Reactivity in Water:	Not water reactive
Evaporation Rate:	Not available	Saturated Vapor Concentration:	Not available
Freezing Point:	Not available	Softening Point:	Not available
Heat Value:	Not available	Solubility in Water:	<0.1 g/100g at 25 degrees C
Melting Point:	-20 degrees C	Specific Gravity or Density (Water=1):	1.6
Molecular/Chemical Formula:	C24H34Br4O4	Vapor Density:	Not available
Molecular Weight:	706.1	Vapor Pressure:	Not available
Octanol/Water Partition Coefficient:	Not available	Viscosity:	3,680 cps at 21 degrees C
Odor:	Odor not available	Volatile Organic Compounds:	Not available
Odor Threshold:	Not available	Water/Oil Distribution Coefficient:	Not available
Particle Size:	Not available	Weight Per Gallon:	Not available

Additional Information

Refractive Index = 1.544 - 1.546

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SECTION X - STABILITY AND REACTIVITY

Stability: Stable under normal conditions of handling and use.
Conditions to Avoid: None
Incompatibility With Other Materials: Strong bases, bromine can be hydrolyzed
Hazardous Decomposition Products: Thermal decomposition may produce the following:
Hydrogen bromide and/or bromine
Carbon monoxide and carbon dioxide
Hazardous Polymerization: Will not occur
Conditions to Avoid: None

Additional Information

No information available

SECTION XI - TOXICOLOGICAL INFORMATION

VALUE (LD50 OR LC50)	ANIMAL	ROUTES	COMPONENTS
>2,000 mg/kg	Rabbit	Acute Dermal	Pyronil 45
>5,000 mg/kg	Rat	Acute Oral	Pyronil 45

Toxicological Information:

This material has been found to be a slight eye irritant in rabbits.
This material has been found to be a mild skin irritant in rabbits.
This material was not determined to be mutagenic in the Ames Test.
Other acute and chronic health hazards, as well as target organs, are unknown.

Additional Information

No information available

SECTION XII - ECOLOGICAL INFORMATION

Ecological Information: Based on modeled data, this material is expected to be persistent in the environment, not expected to biodegrade and not expected to bioaccumulate.

Avoid releasing to the environment.

Additional Information

No information available

SECTION XIII - DISPOSAL CONSIDERATIONS

Disposal Considerations: Dispose of waste at an approved chemical disposal facility in compliance with all current Local, State/Province, Federal/Canadian laws and regulations.

Additional Information

No information available

SECTION XIV - TRANSPORT INFORMATION

U.S. DOT

Proper Shipping Name:	Not regulated	ID Number:	N/A
Hazard Class:	N/A	Labels:	N/A
Packing Group:	N/A	Packaging Exceptions:	N/A
Special Provisions:	N/A	Bulk Packaging:	N/A
Non-Bulk Packaging:	N/A	Air Cargo Limit:	N/A
Passenger Air/Rail Limit:	N/A	Other Stowage:	N/A
Vessel Stowage:	N/A		
Reportable Quantity:	N/A		

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SECTION XIV - TRANSPORT INFORMATION

AIR - ICAO OR IATA

Proper Shipping Name:	Not regulated	ID Number:	N/A
Hazard Class:	N/A	Packing Group:	N/A
Subsidiary Risk:	N/A	Packing Instructions:	N/A
Hazard Labels:	N/A	Packing Instruction -	
Air Passenger Limit Per Package:	N/A	Cargo:	N/A
Air Cargo Limit Per Package:	N/A	Special Provisions Code:	N/A

WATER - IMDG

Proper Shipping Name:	Not regulated	ID Number:	N/A
Hazard Class:	N/A	Subsidiary Risk:	N/A
Packing Group:	N/A		
Medical First Aid Guide Code:	N/A		

Additional Information

No information available

SECTION XV - REGULATORY INFORMATION

U.S. Federal Regulations:

The components of this product are either on the TSCA Inventory or exempt (i.e. impurities, a polymer complying with the exemption rule at 40 CFR 723.250) from the Inventory.

State Regulations:

None known

International Regulations:

This material (or each component) is listed on the following inventories:

EU - EINECS
Japan - ENCS
Korea - ECL
Canada - NDSL
Philippines - PICCS
China - List I
Canadian WHMIS Hazard Class and Division = Not Controlled

SARA Hazards:

Acute:	No	Chronic:	No
Reactive:	No	Fire:	No
Pressure:	No		

Additional Information

The above regulatory information represents only selected regulations and is not meant to be a complete list.

SECTION XVI - OTHER INFORMATION

NFPA Codes:

Health:	2	Flammability:	1
Reactivity:	0	Other:	0

HMIS Codes:

Health:	1	Flammability:	1
Reactivity:	0	Protection:	X

Label Statements:

Not available

Other Information:

Abbreviations:

(L) = Loose bulk density in g/ml

LOEC = Lowest observed effect concentration

MATC = Maximum acceptable toxicant concentration

NA = Not available

N/A = Not applicable

NL = Not limited

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SECTION XVI - OTHER INFORMATION

NOAEL = No observable adverse effect level

NOEC = No observed effect concentration

NOEL = No observable effect level

NR = Not rated

(P) = Packed bulk density in g/ml

PNOC = Particulates Not Otherwise Classified

PNOR = Particulates Not Otherwise Regulated

REL = Recommended exposure limit

TS = Trade secret

Additional Information

Information on this form is furnished solely for the purpose of compliance with OSHA's Hazard Communication Standard, 29CFR 1910.1200 and The Canadian Environmental Protection Act, Canada Gazette Part II, Vol. 122, No. 2 and shall not be used for any other purpose.