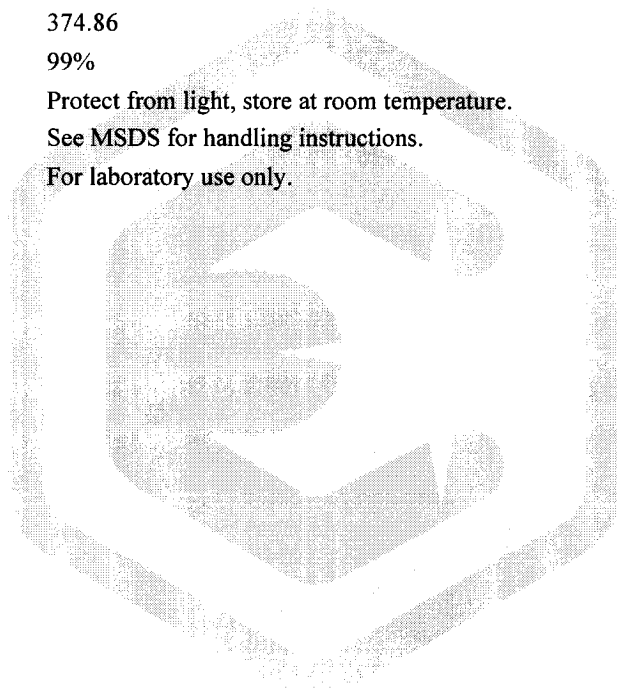
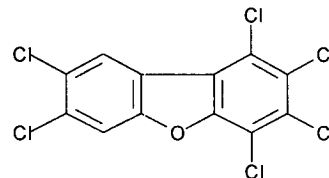


Certificate of Analysis

1,2,3,4,7,8-Hexachlorodibenzofuran

Catalog Number: EF-964-C
Lot Number: 729-20
CAS Number: 70648-26-9
Chemical Formula: C₁₂H₂OCl₆
Molecular Weight: 374.86
Chemical Purity: 99%
Storage: Protect from light, store at room temperature.
Handling: See MSDS for handling instructions.
Intended Use: For laboratory use only.



Cerilliant certifies that this material meets or exceeds the purity value stated in this data sheet. Purity and identity are established using a variety of chromatographic and spectroscopic methods. The results of these analyses are included in this data package.

Authorized Signature:



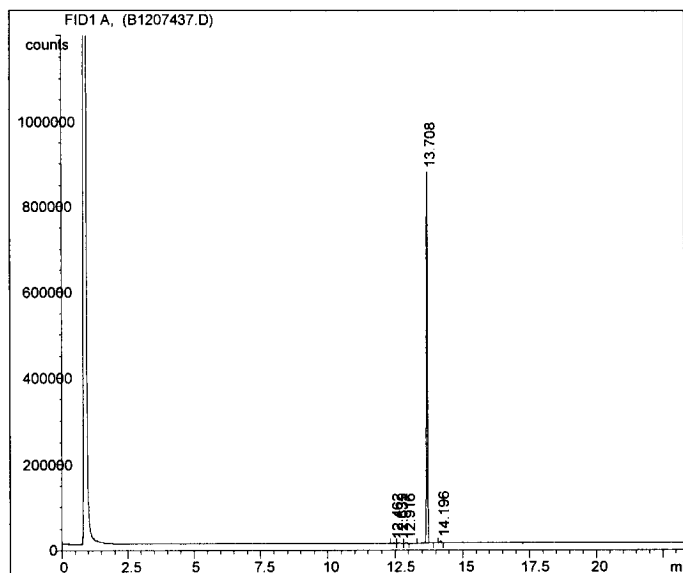
Lara Sparks, Quality Assurance Director

May 3, 2005

Date

Spectral and Physical Data (cont.)

GC/FID



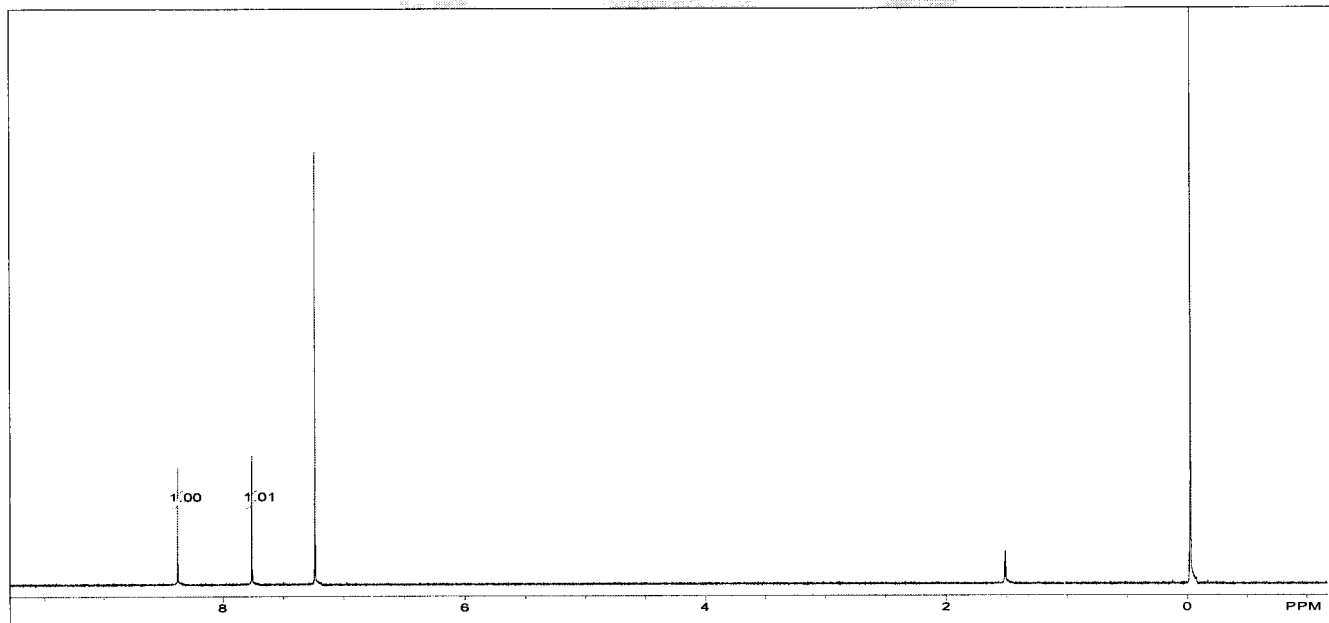
Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 μ m film thickness
Temp Program: 100°C to 300°C at 1.5°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Data File Name: C:\HPCHEM2\DATA\B1207437.D
Operator: ACB
Instrument: GC#2
Sample Name: 729-20
Method File: DIOXP.M
Acquired: December 7, 2004 3:43 PM

Peak #	Ret Time	Area	Height	Area %
1	12.46	4001	1302	0.17
2	12.64	7692	1910	0.32
3	12.92	4431	1365	0.19
4	13.71	2355730	866215	98.73
5	14.20	14214	5223	0.60

¹H NMR

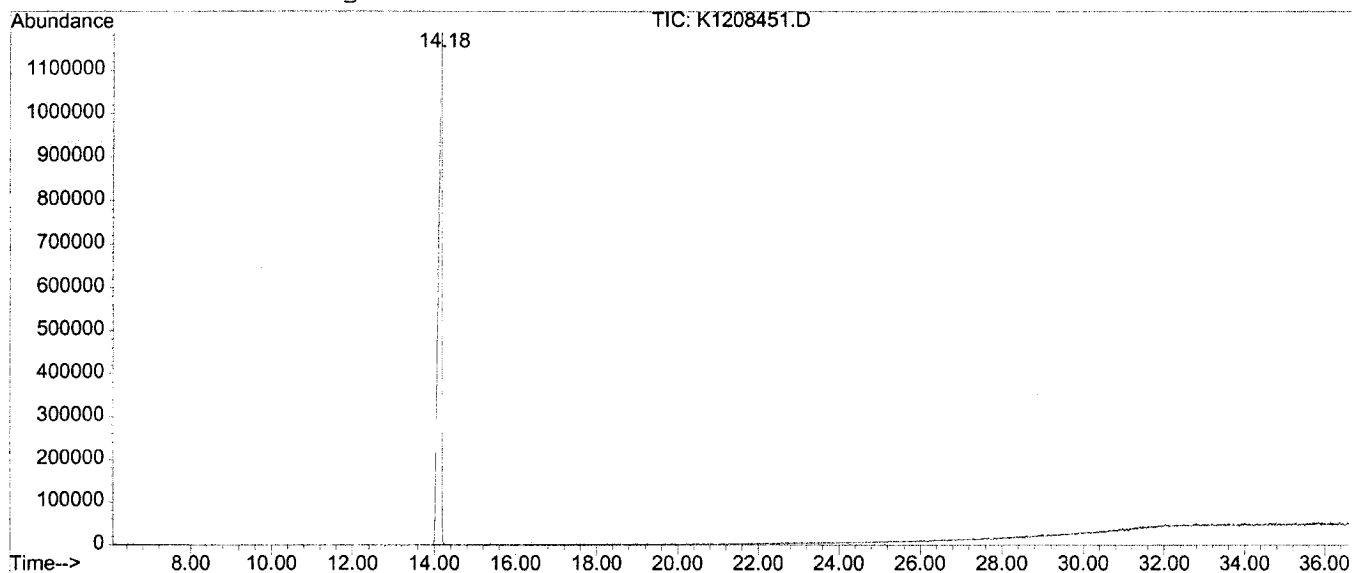
Instrument: Bruker DRX 400
Solvent: Chloroform-D
Reference: TMS



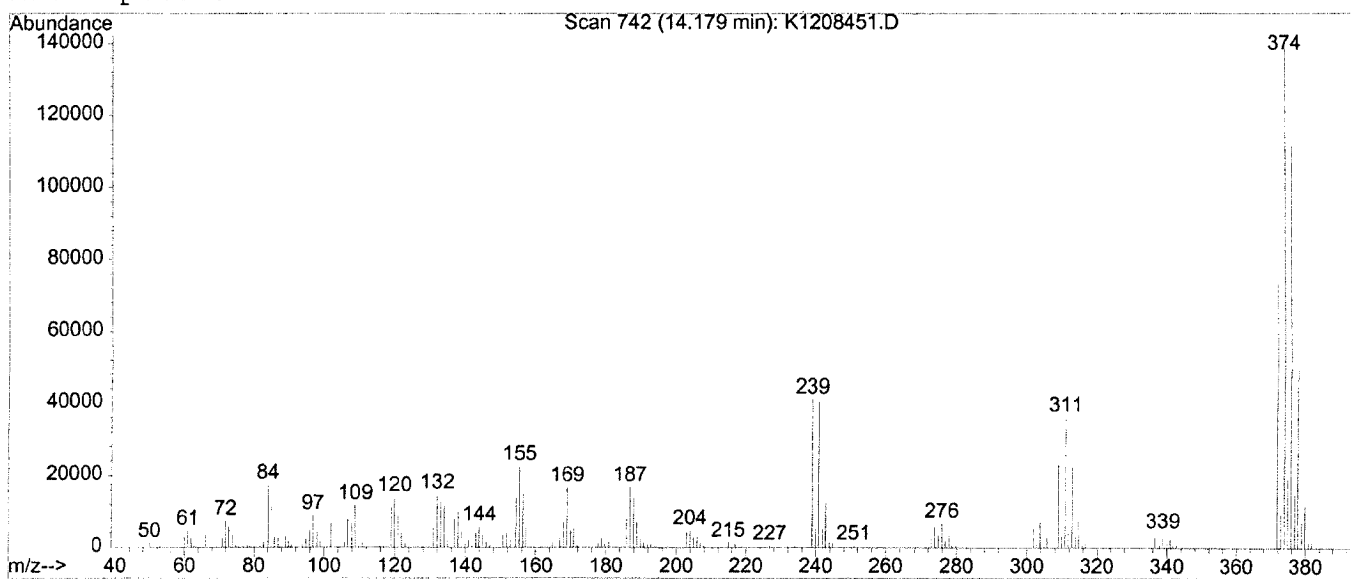
Compound Name : 1,2,3,4,7,8-Hexachlorodibenzofuran
Lot Number : 729-20
Instrument : HP 5971 MSD/5890 Series II GC
Operator-Inst ID : DMH - C10106
Date Reported : Mon Dec 13 11:33:30 2004
Column Type : HP-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C @40°C/min, 200°C to 320°C @4°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL/min) : 0.80 mL/min
Transfer Line Temp. : 280°C

Scan Range : 50-550

Total Ion Chromatogram



Mass Spectrum



MATERIAL SAFETY DATA SHEET

IDENTITY: 1,2,3,4,7,8-Hexachlorodibenzofuran

SECTION I

Manufacturer: Cerilliant Corporation
811 Paloma, Suite A
Round Rock, TX 78664

Emergency Telephone Number: (512) 238-9974
Date Prepared: May 3, 2005

SECTION II - HAZARDOUS COMPONENTS/IDENTITY INFORMATION

Hazardous Components	Synonyms	CAS Number	%
1,2,3,4,7,8-Hexachlorodibenzofuran	NA	70648-26-9	100

SECTION III – Hazard Identification

Very toxic. Suspect carcinogen. Wear suitable protective clothing.

SECTION IV – First Aid Measures

Eye Contact: Flush eyes with copious amounts of water for a minimum of 15 minutes and transport to a medical facility.
Ingestion: Do not induce vomiting. Give victim large quantities of liquid and transport to a medical facility.
Skin Contact: Wash affected areas with copious amounts of water and transport to a medical facility.
Inhalation: Remove to fresh air. If breathing is disturbed, give artificial respiration while transporting to a medical facility.

SECTION V- Fire Fighting Measures

Flash Point: N/A
Method Used: N/A

Flammable Limits
LEL: N/A UEL: N/A

Extinguishing Media: Dry chemical, carbon dioxide or Halon extinguisher

Special Fire Fighting Procedures: Wear SCBA and protective clothing to prevent contact with skin and eyes.

Unusual Fire and Explosion Hazards: N/A

SECTION VI- Accidental Release Measures

Evacuate area. Remove all sources of ignition. Use inert absorbent to pick up all spilled material. Transfer to a suitable waste container with non-sparking tools. Wash spill site with appropriate cleaning agent to removal residual traces of spilled material.

SECTION VII- Handling and Storage

Handling: Do not breathe vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged repeated exposure. Wash thoroughly after handling.

Storage: Room temperature. Protect from light. Keep container closed. Keep away from ignition sources.

SECTION VIII-Exposure Controls/Personal Protection

As appropriate to quantity handled.

Ventilation - Local Exhaust: Use with forced ventilation.

General Mechanical: Normal laboratory air exchange.

Special: N/A

Respiratory Protection: NIOSH approved cartridge type respirator with organic vapor cartridges with HEPA pre-filter recommended.

Eye Protection: Safety glasses with side shields or chemical safety goggles.

Protective Gloves: Compatible chemical resistant gloves.

Other Protective Clothing or Equipment: Lab Coat

Work/Hygienic Practices: Only experienced personnel should be allowed to handle this material.

Exposure Limits				
	OSHA PEL	ACGIH TLV	DFG MAK	Other Limits
1,2,3,4,7,8-Hexachlorodibenzofuran	N/A	N/A	N/A	N/A

SECTION IX-Physical/Chemical Properties

Boiling Point (degrees C): N/A

Melting Point (degrees C): N/A

Specific Gravity (Water=1): N/A

Vapor Pressure (mmHg):N/A

Vapor Density (Air=1): N/A

Evaporation Rate (Butyl Acetate=1): N/A

Solubility in Water: insoluble

Appearance and Odor: white solid

SECTION X-Stability and Reactivity

Stability: Stable

Conditions to Avoid: Heat, sparks or other sources of ignition.

Incompatible Materials: N/A

Hazardous Dcmp Pdts: Toxic fumes of carbon monoxide and carbon dioxide.

Hazardous Polymerization: Will not occur.

Conditions to Avoid: N/A

SECTION XI-Toxicological Information

Routes of Entry: Inhalation? Yes Skin? Yes Ingestion? Yes

Carcinogenicity: NTP? N/A IARC? N/A OSHA? N/A

Symptoms of Exposure: Exposure to 1,2,3,4,7,8-Hexachlorodibenzofuran may cause eye irritation, chloracne, allergic dermatitis, loss of body weight, excessive fatigue, hemorrhage, and lymphoid depletion.

Toxicity Data:

The toxicological properties of 1,2,3,4,7,8-Hexachlorodibenzofuran have not been fully investigated. It should be assumed to have toxic effects and, therefore, procedures appropriate for the safe handling of hazardous chemicals should be followed.

SECTION XII-Ecological Information

Data not available

SECTION XIII-Disposal Considerations

Waste materials should be disposed of under conditions that meet Federal, State, and Local environmental control regulations. Contact a licensed waste disposal specialist to dispose of this material.

SECTION XIX- Transportation Information

DOT Proper Shipping Name: Poisonous solids, n.o.s UN #: 2811 Class: 6.1 Packing Group: I Small quantities exempted	IATA Proper Shipping Name: Poisonous solids, n.o.s UN #: 2811 Class: 6.1 Packing Group: I Small quantities exempted
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SECTION XV-Regulatory Information

EU Directives Classification

Symbol of Danger: T N

Indication of Danger: Toxic. Dangerous for the environment.

R:25 40 48/25 50/53

Risk Statements:

Toxic if swallowed. Possible risk of irreversible effects. Toxic: danger of serious damage to health by prolonged exposure if swallowed. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S: 22 36/37 45 60 61

Safety Statements: Do not breathe dust. Wear suitable protective clothing and gloves. In case of accident or you feel unwell, seek medical advice immediately (show the label where possible). This material and this container must be disposed of as hazardous waste. Avoid release to the environment. Refer to safety data sheets.

SECTION XVI-Other Information

The information contained herein is believed to be accurate and is supplied in good faith. Cerilliant Corporation makes no warranty with respect to and assumes no legal responsibility for use of or reliance upon this information. Individuals receiving this data must exercise their own judgement in determining its suitability for a particular purpose.