



<a href="#">Di-n-butylgermanium Dichloride</a>		<a href="#">Pricing &gt;</a>
Linear Formula	$C_8H_{18}Cl_2Ge$	
Pubchem CID	20723	
MDL Number	N/A	
EC No.	224-986-9	
IUPAC Name	dibutyl(dichloro)germane	
SMILES	CCCC[Ge](CCCC)(Cl)Cl	
Inchi Identifier	InChI=1S/C8H18Cl2Ge/c1-3-5-7-11(9,10)8-6-4-2/h3-8H2,1-2H3	
Inchi Key	VKMPTHGEGBKPBQ-UHFFFAOYSA-N	
Signal Word	Danger	
Hazard Statements	H301-H314	
Hazard Codes	N/A	
Precautionary Statements	P260-P301+P310-P303+P361+P353-P305+P351+P338-P405-P501	
Flash Point	107 °C	
Risk Codes	N/A	
Safety Statements	N/A	
RTECS Number	N/A	
Transport Information	UN2922 8 (6.1), II	
WGK Germany	NONH	
GHS Pictograms	<a href="#">GHS05 Corrosive</a>  <a href="#">GHS06 Skull and Crossbones</a> 	

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## SAFETY DATA SHEET

Date Accessed: 04/28/2024

Date Revised: 01/15/2022

### SECTION 1. IDENTIFICATION

**Product Identifiers:** All applicable American Elements product codes for CAS #4593-81-1

**Relevant identified uses of the substance:**  
Scientific research and development

Supplier details:  
American Elements  
10884 Weyburn Ave.  
Los Angeles, CA 90024  
Tel: +1 310-208-0551  
Fax: +1 310-208-0351

Emergency telephone number:  
Domestic, North America +1 800-424-9300  
International +1 703-527-3887

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## SECTION 2. HAZARDS IDENTIFICATION

### Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute oral toxicity Category 3

Acute dermal toxicity Category 3

Acute Inhalation Toxicity - Dusts and Mists Category 3

Skin Corrosion/irritation Category 1 B

Serious Eye Damage/Eye Irritation Category 1

### Label Elements

#### Signal Word

Danger

#### Hazard Statements

Toxic if swallowed

Toxic in contact with skin

Causes severe skin burns and eye damage

Toxic if inhaled



### Precautionary Statements

#### Prevention

Wash face, hands and any exposed skin thoroughly after handling

Do not eat, drink or smoke when using this product

Wear protective gloves/protective clothing/eye protection/face protection

Use only outdoors or in a well-ventilated area

Do not breathe dust/fume/gas/mist/vapors/spray

#### Response

Immediately call a POISON CENTER or doctor/physician

#### Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

#### Skin

Wash contaminated clothing before reuse

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

Ingestion

Rinse mouth

Do NOT induce vomiting

Storage

Store locked up

Store in a well-ventilated place. Keep container tightly closed

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Contact with water liberates toxic gas

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### **SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Component Germane, dibutyldichloro-

CAS-No 4593-81-1

Weight % 98

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### **SECTION 4. FIRST AID MEASURES**

Eye Contact Immediate medical attention is required.

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

Skin Contact Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required.

Inhalation Remove from exposure, lie down. Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Immediate medical attention is required.

Ingestion Do not induce vomiting. Call a physician immediately. Clean mouth with water.

Most important symptoms/effects Causes burns by all exposure routes. Product is a corrosive material. Use of gastric

lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation

Notes to Physician Treat symptomatically

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## SECTION 5. FIREFIGHTING MEASURES

Suitable Extinguishing Media Carbon dioxide (CO<sub>2</sub>).  
Dry chemical. chemical foam.  
Unsuitable Extinguishing Media No data available  
Flash Point No data available  
Method - No data available  
Autoignition Temperature No data available  
Explosion Limits  
Upper No data available  
Lower No data available  
Sensitivity to Mechanical Impact No data available  
Sensitivity to Static Discharge No data available  
Specific Hazards Arising from the Chemical  
Contact with water liberates toxic gas. Water reactive.  
Produce flammable gases on contact with water.  
Hazardous Combustion Products  
Hydrogen chloride gas Carbon monoxide (CO)  
Carbon dioxide (CO<sub>2</sub>)  
Protective Equipment and Precautions for Firefighters  
As in any fire, wear self-contained breathing  
apparatus pressure-demand, MSHA/NIOSH  
(approved or equivalent) and full  
NFPA  
Health  
3  
Flammability  
0  
Instability  
0  
Physical Hazards  
W

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## SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions Ensure adequate ventilation.  
Use personal protective equipment.  
Environmental Precautions See Section 12 for  
additional ecological information.  
Methods for Containment and Clean  
Up  
Soak up with inert absorbent material (e.g. sand, silica  
gel, acid binder, universal binder,  
sawdust). Keep in suitable, closed containers for  
disposal.

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## SECTION 7. HANDLING AND STORAGE

Handling Do not breathe dust. Do not breathe vapors  
or spray mist. Do not get in eyes, on skin, or on  
clothing. Use only in area provided with appropriate

exhaust ventilation.  
Storage Keep in a dry, cool and well-ventilated place.  
Keep container tightly closed. Store contents  
under argon. Corrosives area.

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## **SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

Exposure Guidelines This product does not contain  
any hazardous materials with occupational exposure  
limits

established by the region specific regulatory bodies.

Engineering Measures Ensure adequate ventilation,  
especially in confined areas. Ensure that eyewash  
stations

and safety showers are close to the workstation  
location.

Personal Protective Equipment

Eye/face Protection Wear appropriate protective  
eyeglasses or chemical safety goggles as described  
by

OSHA's eye and face protection regulations in 29  
CFR 1910.133 or European Standard EN166.

Skin and body protection Wear appropriate protective  
gloves and clothing to prevent skin exposure.

Respiratory Protection Follow the OSHA respirator  
regulations found in 29 CFR 1910.134 or European  
Standard

Hygiene Measures Handle in accordance with good  
industrial hygiene and safety practice.

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## **SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Physical State Liquid

Appearance Clear

Odor No data available

Odor Threshold No data available

pH No data available

Melting Point/Range No data available

Boiling Point/Range 242 °C / 467.6 °F @ 760 mmHg

Flash Point No data available

Evaporation Rate No data available

Flammability (solid,gas) No data available

Flammability or explosive limits

Upper No data available

Lower No data available

Vapor Pressure No data available

Vapor Density No data available

Relative Density 1.208

Solubility No data available

Partition coefficient; n-octanol/water No data available  
Autoignition Temperature No data available  
Decomposition Temperature No data available  
Viscosity No data available  
Molecular Formula C<sub>8</sub> H<sub>18</sub> Cl<sub>2</sub> Ge  
Molecular Weight 257.73

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## SECTION 10. STABILITY AND REACTIVITY

Reactive Hazard Yes  
Stability Stable under normal conditions. Moisture sensitive.  
Conditions to Avoid Incompatible products. Exposure to moist air or water.  
Incompatible Materials Strong oxidizing agents, Powdered metals  
Hazardous Decomposition Products Hydrogen chloride gas, Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>)  
Hazardous Polymerization Hazardous polymerization does not occur.  
Hazardous Reactions None under normal processing.

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## SECTION 11. TOXICOLOGICAL INFORMATION

Acute Toxicity  
Product Information No acute toxicity information is available for this product  
Component Information  
Component LD<sub>50</sub> Oral LD<sub>50</sub> Dermal LC<sub>50</sub> Inhalation  
Germane, dibutyldichloro- 100 mg/kg ( Rat ) Not listed  
Not listed  
Toxicologically Synergistic  
Products  
No data available  
Delayed and immediate effects as well as chronic effects from short and long-term exposure  
Irritation No data available  
Sensitization No data available  
Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.  
Component CAS-No IARC NTP ACGIH OSHA  
Mexico  
Germane,  
dibutyldichloro-  
4593-81-1 Not listed Not listed Not listed Not listed  
Not listed  
Mutagenic Effects No data available  
Reproductive Effects No data available.

Developmental Effects No data available.  
Teratogenicity No data available.  
STOT - single exposure None known  
STOT - repeated exposure None known  
Aspiration hazard No data available  
Symptoms / effects, both acute and delayed  
Product is a corrosive material. Use of gastric lavage or emesis is contraindicated.  
Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation  
Endocrine Disruptor Information No data available  
Other Adverse Effects The toxicological properties have not been fully investigated. See actual entry in RTECS for complete information.

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## **SECTION 12. ECOLOGICAL INFORMATION**

Ecotoxicity  
Do not empty into drains.  
Persistence and Degradability No data available  
Bioaccumulation/ Accumulation No data available.  
Mobility No data available.

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## **SECTION 13. DISPOSAL CONSIDERATIONS**

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

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## **SECTION 14. TRANSPORT INFORMATION**

DOT  
UN-No UN2922  
Hazard Class 8  
Subsidiary Hazard Class 6.1  
Packing Group III  
TDG  
UN-No UN2922  
Hazard Class 8  
Subsidiary Hazard Class 6.1  
Packing Group III

IATA  
UN-No  
2922  
Proper Shipping Name CORROSIVE LIQUID, TOXIC,  
N.O.S.\*  
Hazard Class 8  
Subsidiary Hazard Class 6.1  
Packing Group III  
IMDG/IMO  
UN-No 2922  
Proper Shipping Name CORROSIVE LIQUID, TOXIC,  
N.O.S.  
Hazard Class 8  
Subsidiary Hazard Class 6.1  
Packing Group III

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## **SECTION 15. REGULATORY INFORMATION**

International Inventories  
Component TSCA DSL NDSL EINECS ELINCS NLP  
PICCS ENCS AICS IECSC KECL  
Germane, dibutylchloro- X - X 224-986-9 - - - - -  
Legend:  
X - Listed  
E - Indicates a substance that is the subject of a  
Section 5(e) Consent order under TSCA.  
F - Indicates a substance that is the subject of a  
Section 5(f) Rule under TSCA.  
N - Indicates a polymeric substance containing no  
free-radical initiator in its inventory name but is  
considered to cover the designated  
polymer made with any free-radical initiator regardless  
of the amount used.  
P - Indicates a commenced PMN substance  
R - Indicates a substance that is the subject of a  
Section 6 risk management rule under TSCA.  
S - Indicates a substance that is identified in a  
proposed or final Significant New Use Rule  
T - Indicates a substance that is the subject of a  
Section 4 test rule under TSCA.  
XU - Indicates a substance exempt from reporting  
under the Inventory Update Rule, i.e. Partial Updating  
of the TSCA Inventory Data Base  
Production and Site Reports (40 CFR 710(B)).  
Y1 - Indicates an exempt polymer that has a number-  
average molecular weight of 1,000 or greater.  
Y2 - Indicates an exempt polymer that is a polyester  
and is made only from reactants included in a  
specified list of low concern reactants  
that comprises one of the eligibility criteria for the  
exemption rule.  
U.S. Federal Regulations



TSCA 12(b) N/A  
SARA 313 N/A  
SARA 311/312 Hazardous Categorization  
Acute Health Hazard Yes  
Chronic Health Hazard No  
Fire Hazard No  
Sudden Release of Pressure Hazard No  
Reactive Hazard Yes  
Clean Water Act N/A  
Clean Air Act N/A  
OSHA Occupational Safety and Health Administration  
N/A  
CERCLA  
N/A  
California Proposition 65 This product does not  
contain any Proposition 65 chemicals  
State Right-to-Know N/A  
U.S. Department of Transportation  
Reportable Quantity (RQ): N  
DOT Marine Pollutant N  
DOT Severe Marine Pollutant N  
U.S. Department of Homeland Security  
This product does not contain any DHS chemicals.  
Other International Regulations  
Mexico - Grade No data available  
Canada  
This product has been classified in accordance with  
the hazard criteria of the Controlled Products  
Regulations (CPR) and  
the MSDS contains all the information required by the  
CPR  
WHMIS Hazard Class D1A Very toxic materials  
E Corrosive material  
F Dangerously reactive material

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## **16. OTHER INFORMATION**

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. American Elements shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. COPYRIGHT 1997-2022 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.

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