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## Safety Data Sheet

**Material Name: DIMETHYLZINC**

**SDS ID: MAT07880**

### Section 1 - PRODUCT AND COMPANY IDENTIFICATION

**Material Name**

DIMETHYLZINC

**Synonyms**

MTG MSDS 114; ZINC DIMETHYL; ZINC METHYL; METHYLZINC

**Chemical Family**

organometallic

**Product Use**

Industrial and Specialty Gas Applications.

**Restrictions on Use**

None known.

**Details of the supplier of the safety data sheet**

MATHESON TRI-GAS, INC.

150 Allen Road, Suite 302

Basking Ridge, NJ 07920

General Information: 1-800-416-2505

Emergency #: 1-800-424-9300 (CHEMTREC)

Outside the US: 703-527-3887 (Call collect)

### Section 2 - HAZARDS IDENTIFICATION

**Classification in accordance with paragraph (d) of 29 CFR 1910.1200.**

Flammable Liquids - Category 2

Pyrophoric Liquids - Category 1

Substances and Mixtures which, in Contact with Water, Emit Flammable Gases - Category 1

Skin Corrosion/Irritation - Category 1

Serious Eye Damage/Eye Irritation - Category 1

Specific target organ toxicity - Single exposure - Category 3

Hazardous to the Aquatic Environment - Acute - Category 1

Hazardous to the Aquatic Environment - Chronic - Category 1

**GHS Label Elements**

**Symbol(s)**



**Signal Word**

Danger

**Hazard Statement(s)**

Highly flammable liquid and vapor.

Catches fire spontaneously if exposed to air.

In contact with water releases flammable gases, which may ignite spontaneously.

Causes severe skin burns and eye damage.

May cause respiratory irritation.

Very toxic to aquatic life with long lasting effects.

**Precautionary Statement(s)**



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**Material Name: DIMETHYLZINC****SDS ID: MAT07880****Prevention**

Keep away from heat, sparks, open flame, and hot surfaces - No smoking.  
Keep away from any possible contact with water, because of violent reaction and possible flash fire.  
Keep container tightly closed.  
Do not allow contact with air.  
Handle under inert gas.  
Ground/Bond container and receiving equipment.  
Use explosion-proof electrical/ventilating/lighting equipment.  
Use only non-sparking tools.  
Take precautionary measures against static discharge.  
Protect from moisture.  
Do not breathe vapor or mist.  
Use only outdoors or in a well-ventilated area.  
Wash thoroughly after handling.  
Wear protective gloves/protective clothing/eye protection/face protection.  
Avoid release to the environment.

**Response**

In case of fire, use media appropriate for extinction.  
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
Immediately call a POISON CENTER or doctor/physician.  
Specific treatment is urgent, see first aid section of Safety Data Sheet.  
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.  
Brush off loose particles from skin and immerse in cool water/wrap in wet bandages.  
Immediately call a POISON CENTER or doctor/physician.  
Wash contaminated clothing before reuse.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.  
Continue rinsing.  
Immediately call a POISON CENTER or doctor/physician.  
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
Immediately call a POISON CENTER or doctor/physician.  
Collect spillage.

**Storage**

Store in a well-ventilated place.  
Keep cool.  
Store contents under inert gas.  
Store in a dry place.  
Store in a closed container.  
Store locked up.

**Disposal**

Dispose in accordance with all applicable regulations.

**Statement(s) of Unknown Aquatic Toxicity**

0% of the mixture consists of ingredient(s) of unknown acute aquatic toxicity.  
0% of the mixture consists of ingredient(s) of unknown chronic aquatic toxicity.

**Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS**

CAS	Component Name	Percent
544-97-8	DIMETHYLZINC	100



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### Section 4 - FIRST AID MEASURES

**Inhalation**

If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.

**Skin**

Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get immediate medical attention. Thoroughly clean and dry contaminated clothing before reuse. Destroy contaminated shoes.

**Eyes**

Immediately flush eyes with plenty of water for at least 60 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Then get immediate medical attention.

**Ingestion**

If swallowed, do not induce vomiting. Rinse mouth. Get immediate medical attention.

**Most Important Symptoms/Effects****Acute**

respiratory tract burns, skin burns, eye burns, mucous membrane burns

**Delayed**

no information on significant adverse effects.

**Note to Physicians**

For inhalation, consider oxygen. Avoid gastric lavage or emesis.

### Section 5 - FIRE FIGHTING MEASURES

**Extinguishing Media****Suitable Extinguishing Media**

regular dry chemical, dry sand, Lime, soda ash, Large fires: dry sand, dry chemical, soda ash or lime or withdraw from area and let fire burn.

**Unsuitable Extinguishing Media**

Do not use water, foam or carbon dioxide.

**Special Hazards Arising from the Chemical**

Severe fire hazard.

**Hazardous Combustion Products**

Oxides of carbon, oxides of zinc

**Fire Fighting Measures**

Do not use water. Do not use foam. Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Use extinguishing agents appropriate for surrounding fire. Do not get water directly on material. Do not get water inside container. Avoid inhalation of material or combustion by-products. Evacuation radius: 800 meters (1/2 mile).

**Special Protective Equipment and Precautions for Firefighters**

Wear full protective fire fighting gear including self contained breathing apparatus (SCBA) for protection against possible exposure.

### Section 6 - ACCIDENTAL RELEASE MEASURES

**Personal Precautions, Protective Equipment and Emergency Procedures**

Wear personal protective clothing and equipment, see Section 8.

**Methods and Materials for Containment and Cleaning Up**

Avoid heat, flames, sparks and other sources of ignition. Do not touch or walk through spilled material. Stop leak if possible without personal risk. Do not get water directly on material. Do not get water inside container. Avoid contact with air. Absorb with sand or other non-combustible material. Collect spilled material in appropriate

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container for disposal. Dike for later disposal. Keep unnecessary people away, isolate hazard area and deny entry. Stay upwind and keep out of low areas.

**Environmental Precautions**

Avoid release to the environment. Collect spillage.

**Section 7 - HANDLING AND STORAGE****Precautions for Safe Handling**

Keep away from heat, sparks, open flame, and hot surfaces - No smoking. Keep away from any possible contact with water, because of violent reaction and possible flash fire. Keep container tightly closed. Do not allow contact with air. Handle under inert gas. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharges. Protect from moisture. Do not breathe vapor or mist. Use only outdoors or in a well-ventilated area. Wash hands thoroughly after handling. Wear protective gloves/clothing and eye/face protection. Avoid release to the environment.

**Conditions for Safe Storage, Including any Incompatibilities**

Store in a well-ventilated place.

Keep cool.

Store contents under inert gas.

Store in a dry place.

Store in a closed container.

Store locked up.

Store and handle in accordance with all current regulations and standards. Subject to storage regulations: U.S. OSHA 29 CFR 1910.106. Grounding and bonding required. Store in a well-ventilated area. Keep cool. Store contents under inert gas. Store in a dry place. Store in a closed container. Keep locked up. Keep separated from incompatible substances.

**Incompatible Materials**

combustible materials, oxidizing materials

**Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION****Component Exposure Limits**

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

**ACGIH - Threshold Limit Values - Biological Exposure Indices (BEI)**

There are no biological limit values for any of this product's components.

**Engineering Controls**

Provide local exhaust or process enclosure ventilation system. Ventilation equipment should be explosion-resistant if explosive concentrations of material are present. Ensure compliance with applicable exposure limits.

**Individual Protection Measures, such as Personal Protective Equipment****Eye/face protection**

Wear helmet with full face shield and fire-proof hood to prevent any possibility of burns if in contact with this substance. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

**Skin Protection**

Wear appropriate chemical resistant clothing.

**Respiratory Protection**

Under conditions of frequent use or heavy exposure, respiratory protection may be needed. Respiratory protection is ranked in order from minimum to maximum. Consider warning properties before use. Any chemical cartridge respirator with organic vapor cartridge(s). Any chemical cartridge respirator with a full facepiece and organic vapor cartridge(s). Any air-purifying respirator with a full facepiece and an organic vapor canister. Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode.



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Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.

**Glove Recommendations**

Wear fire-resistant gloves.

**Section 9 - PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance</b>	Colorless liquid	<b>Physical State</b>	liquid
<b>Odor</b>	garlic odor	<b>Color</b>	colorless
<b>Odor Threshold</b>	Not available	<b>pH</b>	Not available
<b>Melting Point</b>	-42 °C (-44 °F )	<b>Boiling Point</b>	46 °C (115 °F )
<b>Boiling Point Range</b>	Not available	<b>Freezing point</b>	Not available
<b>Evaporation Rate</b>	Not available	<b>Flammability (solid, gas)</b>	Not available
<b>Autoignition Temperature</b>	<-18 °C (<0 °F )	<b>Flash Point</b>	(Flammable )
<b>Lower Explosive Limit</b>	Not available	<b>Decomposition temperature</b>	Not available
<b>Upper Explosive Limit</b>	Not available	<b>Vapor Pressure</b>	375 mmHg @ 25 °C
<b>Vapor Density (air=1)</b>	Not available	<b>Specific Gravity (water=1)</b>	1.4 at 11 °C
<b>Water Solubility</b>	(Reacts violently, Decomposes )	<b>Partition coefficient: n-octanol/water</b>	Not available
<b>Viscosity</b>	0.807 cp	<b>Kinematic viscosity</b>	Not available
<b>Solubility (Other)</b>	Not available	<b>Density</b>	Not available
<b>Physical Form</b>	liquid	<b>Molecular Formula</b>	C2-H6-Zn
<b>Molecular Weight</b>	95.44		

**Solvent Solubility****Soluble**

ether, xylene

**Section 10 - STABILITY AND REACTIVITY****Chemical Stability**

Reacts violently with water to generate toxic and/or flammable gases. May ignite on exposure to air.

**Possibility of Hazardous Reactions**

Will not polymerize.

**Conditions to Avoid**

Avoid contact with air. Avoid contact with water or moisture. Keep dry. Keep out of water supplies and sewers.

**Incompatible Materials**



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combustible materials, oxidizing materials

**Hazardous decomposition products**

Oxides of carbon, oxides of zinc

### Section 11 - TOXICOLOGICAL INFORMATION

**Information on Likely Routes of Exposure**

**Inhalation**

burns, metallic taste, vomiting, chest pain, difficulty breathing, headache, digestive disorders

**Skin Contact**

burns, itching

**Eye Contact**

burns

**Ingestion**

burns

**Acute and Chronic Toxicity**

**Component Analysis - LD50/LC50**

The components of this material have been reviewed in various sources and no selected endpoints have been identified.

**Product Toxicity Data**

**Acute Toxicity Estimate**

No data available.

**Immediate Effects**

respiratory tract burns, skin burns, eye burns, mucous membrane burns

**Delayed Effects**

no information on significant adverse effects.

**Irritation/Corrosivity Data**

respiratory tract burns, skin burns, eye burns, mucous membrane burns

**Respiratory Sensitization**

No data available.

**Dermal Sensitization**

No data available.

**Component Carcinogenicity**

None of this product's components are listed by ACGIH, IARC, NTP, DFG or OSHA

**Germ Cell Mutagenicity**

No data available.

**Tumorigenic Data**

No data available

**Reproductive Toxicity**

No data available.

**Specific Target Organ Toxicity - Single Exposure**

respiratory tract

**Specific Target Organ Toxicity - Repeated Exposure**

No target organs identified.

**Aspiration hazard**

Not expected to be an aspiration hazard.

**Medical Conditions Aggravated by Exposure**

No data available.

### Section 12 - ECOLOGICAL INFORMATION

**Ecotoxicity**



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Very toxic to aquatic life with long lasting effects. There is no data for the substance itself, however, it has been classified a Category 1 to the aquatic environment by Europe and Taiwan.

**Component Analysis - Aquatic Toxicity**

No LOLI ecotoxicity data are available for this product's components.

**Persistence and Degradability**

No data available.

**Bioaccumulative Potential**

No data available.

**Mobility**

No data available.

### Section 13 - DISPOSAL CONSIDERATIONS

**Disposal Methods**

Dispose in accordance with all applicable regulations. Subject to disposal regulations: U.S. EPA 40 CFR 262.

Hazardous Waste Number(s): D001. D003.

**Component Waste Numbers**

The U.S. EPA has not published waste numbers for this product's components.

### Section 14 - TRANSPORT INFORMATION

**US DOT Information:**

**Shipping Name:** DIMETHYLZINC

**Hazard Class:** 4.2

**UN/NA #:** UN1370

**Packing Group:** I

**Required Label(s):** 4.2 4.3

Marine pollutant

**IMDG Information:**

**Shipping Name:** ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC, WATER-REACTIVE

**Hazard Class:** 4.2

**UN#:** UN3394

**Packing Group:** I

**Required Label(s):** 4.2 4.3

Marine pollutant

**International Bulk Chemical Code**

This material does not contain any chemicals required by the IBC Code to be identified as dangerous chemicals in bulk.

### Section 15 - REGULATORY INFORMATION

**U.S. Federal Regulations**

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), and/or require an OSHA process safety plan.

<b>DIMETHYLZINC</b>	<b>544-97-8</b>
<b>SARA 313:</b>	1 % de minimis concentration (related to Zinc compounds)

**SARA Section 311/312 (40 CFR 370 Subparts B and C) reporting categories**

Flammable; Pyrophoric; In contact with water, emits flammable gas; Skin Corrosion/Irritation; Serious Eye Damage/Eye Irritation; Specific Target Organ Toxicity



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### U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA
<b>DIMETHYLZINC</b>	<b>544-97-8</b>	Yes	No	No	Yes	Yes

**Not listed under California Proposition 65**

### Canada Regulations

#### Canadian WHMIS Ingredient Disclosure List (IDL)

The components of this product are either not listed on the IDL or are present below the threshold limit listed on the IDL.

### Component Analysis - Inventory

#### DIMETHYLZINC (544-97-8)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2	KR - REACH CCA	CN	NZ	MX	TW	VN - NCI (Draft)
Yes	NSL	EIN	No	Yes	No	No	No	No	No	Yes	No	No	Yes	No

## Section 16 - OTHER INFORMATION

### NFPA Ratings

Health: 3 Fire: 3 Reactivity: 2

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

### Summary of Changes

Updated: 05/01/2015

### Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CA/MA/MN/NJ/PA - California/Massachusetts/Minnesota/New Jersey/Pennsylvania\*; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CFR - Code of Federal Regulations (US); CLP - Classification, Labelling, and Packaging; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSD - Dangerous Substance Directive; DSL - Domestic Substances List; EC - European Commission; EEC - European Economic Community; EIN - European Inventory of (Existing Commercial Chemical Substances); EINECS - European Inventory of Existing Commercial Chemical Substances; ENCS - Japan Existing and New Chemical Substance Inventory; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; ISHL - Japan Industrial Safety and Health Law; IUCLID - International Uniform Chemical Information Database; JP - Japan; Kow - Octanol/water partition coefficient; KR KECI Annex 1 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL); KR KECI Annex 2 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL) , KR - Korea; LD50/LC50 - Lethal Dose/ Lethal Concentration; LEL - Lower Explosive Limit; LLV - Level Limit Value; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; MX - Mexico; NDSL - Non-Domestic Substance List (Canada); NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health



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Administration; PEL- Permissible Exposure Limit; PH - Philippines; RCRA - Resource Conservation and Recovery Act; REACH- Registration, Evaluation, Authorisation, and restriction of Chemicals; RID - European Rail Transport; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TCCA – Korea Toxic Chemicals Control Act; TDG - Transportation of Dangerous Goods; TLV - Threshold Limit Value; TSCA - Toxic Substances Control Act; TW – Taiwan; TWA - Time Weighted Average; UEL - Upper Explosive Limit; UN/NA - United Nations /North American; US - United States; VLE - Exposure Limit Value (Mexico); VN NCI (Draft) - Vietnam National Chemicals Inventory (NCI) (Draft); WHMIS - Workplace Hazardous Materials Information System (Canada) .

### **Other Information**

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