

SECTION 1: Identification

1.1. Identification

Product form	: Substance
Trade name	: ZDMA
CAS-No.	: 13189-00-9
Formula	: C ₈ H ₁₀ O ₄ Zn
Synonyms	: Zinc dimethacrylate

1.2. Recommended use and restrictions on use

Use of the substance/mixture	: Adhesion promoter Polymers
Restrictions on use	: Any use not specified

1.3. Supplier

Western Reserve Chemical Corporation
4837 Darrow Road
Stow, OH 44224 - USA
T 330 650 2244 - F 330 650 2255
www.wrchem.com

1.4. Emergency telephone number

Emergency number : CHEMTREC 1 800 424 9300 USA

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Acute toxicity (oral), Category 4	H302 Harmful if swallowed.
Serious eye damage/eye irritation, Category 1	H318 Causes serious eye damage.
Skin sensitisation, Category 1	H317 May cause an allergic skin reaction.
Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation	H335 May cause respiratory irritation.
Full text of H- statements: see section 16	

2.2. GHS Label elements, including precautionary statements

GHS US labelling

Hazard pictograms (GHS) :



Signal word (GHS)	: Danger
Hazard statements (GHS_US)	: H302 - Harmful if swallowed. H317 - May cause an allergic skin reaction. H318 - Causes serious eye damage. H335 - May cause respiratory irritation.
Precautionary statements (GHS)	: P261 - Avoid breathing dust/fume/gas/mist/vapours/spray. P264 - Wash hands, forearms and face thoroughly after handling. P270 - Do not eat, drink or smoke when using this product. P271 - Use only outdoors or in a well-ventilated area. P272 - Contaminated work clothing must not be allowed out of the workplace. P280 - Wear protective gloves/protective clothing/eye protection/face protection. P301+P312 - If swallowed: Call a poison center or doctor if you feel unwell. P302+P352 - If on skin: Wash with plenty of water. P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing. 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. P312 - Call a poison center/doctor if you feel unwell P321 - Specific treatment (see supplemental first aid instruction on this label). P330 - Rinse mouth.

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P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
P363 - Wash contaminated clothing before reuse.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards which do not result in classification

No data available

2.4. Unknown acute toxicity (GHS_US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substances

Name	Product identifier	%	GHS US classification
Zinc dimethacrylate (Main constituent)	(CAS-No.) 13189-00-9	100	Acute Tox. 4 (Oral), H302 Eye Dam. 1, H318 Skin Sens. 1, H317 STOT SE 3, H335

Full text of hazard classes, H- statements: see section 16

3.2. Mixtures

Not applicable

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	: If inhaled and if breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
First-aid measures after skin contact	: Wash skin thoroughly with mild soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation or rash occurs: Get medical advice/attention.
First-aid measures after eye contact	: Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. Call a POISON CENTER/doctor if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after inhalation	: May cause respiratory irritation.
Symptoms/effects after skin contact	: May cause an allergic skin reaction.
Symptoms/effects after eye contact	: Causes serious eye damage.
Symptoms/effects after ingestion	: Harmful if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	: Foam. Dry powder. Carbon dioxide. Water spray.
Unsuitable extinguishing media	: Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

Fire hazard	: Burning produces irritating, toxic and noxious fumes. Carbon oxides (CO, CO ₂). Zinc oxide.
Explosion hazard	: None known.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions	: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection. Wear a self contained breathing apparatus. Wear fire/flame resistant/retardant clothing.

SECTION 6: Accidental release measures

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6.1. Personal precautions, protective equipment and emergency procedures

General measures : Avoid all unnecessary exposure. Do not get in eyes, on skin, or on clothing. Do not breathe dust.

6.1.1. For non-emergency personnel

Protective equipment : Refer to section 8.2.
Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Refer to section 8.2.
Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Avoid release to the environment.

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 : On land, sweep or shovel into suitable containers. Minimise generation of dust.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour. Do not breathe dust. Use only outdoors or in a well-ventilated area. Do not get in eyes, on skin, or on clothing.
Hygiene measures : Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep only in the original container in a cool well ventilated place. Keep container tightly closed.
Incompatible products : Strong oxidizers.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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No data available

8.2. Appropriate engineering controls

Appropriate engineering controls : Avoid creating or spreading dust. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Either local exhaust or general room ventilation is usually required.
Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Avoid all unnecessary exposure.

Hand protection:

Wear suitable gloves resistant to chemical penetration. Nitrile rubber gloves. Butyl rubber gloves

Eye protection:

tightly fitting safety goggles

Skin and body protection:

Long sleeved protective clothing

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Respiratory protection:

No special respiratory protection equipment is recommended under normal conditions of use with adequate ventilation. Where excessive dust may result, use approved respiratory protection equipment. Dust Respirator

Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Powder.
Colour	: White
Odour	: No data available
Odour threshold	: No data available
pH	: 6.1
pH solution	: 10 %
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Flammability (solid, gas)	: Non flammable.
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: 1.462 @ 20 °C
Solubility	: Insoluble in: water, Ethanol.
Log Pow	: 0.85 @ 25 °C
Auto-ignition temperature	: No data available
Decomposition temperature	: > 200 °C
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive limits	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available

9.2. Other information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known.

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.

10.5. Incompatible materials

Strong oxidizers.

10.6. Hazardous decomposition products

None under normal use.

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SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Harmful if swallowed.
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

ZDMA (13189-00-9)	
LD50 Oral rat	500 mg/kg female
ATE (oral)	500 mg/kg bodyweight

Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Causes serious eye damage.
Respiratory or skin sensitisation : May cause an allergic skin reaction.
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified

STOT-single exposure : May cause respiratory irritation.
STOT-repeated exposure : Not classified
Aspiration hazard : Not classified
Viscosity, kinematic : No data available

Likely routes of exposure : Skin and eye contact. Inhalation.
Symptoms/effects after inhalation : May cause respiratory irritation.
Symptoms/effects after skin contact : May cause an allergic skin reaction.
Symptoms/effects after eye contact : Causes serious eye damage.
Symptoms/effects after ingestion : Harmful if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

SECTION 12: Ecological information

12.1. Toxicity

ZDMA (13189-00-9)	
LC50 fish 1	96.73 mg/l 96 h
EC50 crustacea	100 mg/l 48 h
EC50 - Crustacea [2]	8.9 mg/l 48 h Daphnia magna (read-across Zinc lactate)
ErC50 algae	0.56 mg/l 72 h Pseudokirchneriella subcapitata
LOEC (acute)	0.22 mg/l 72 h Pseudokirchneriella subcapitata

12.2. Persistence and degradability

ZDMA (13189-00-9)	
Persistence and degradability	Readily biodegradable.
Biodegradation	92 % 28 d

12.3. Bioaccumulative potential

ZDMA (13189-00-9)	
Log Pow	0.85 @ 25 °C

12.4. Mobility in soil

ZDMA (13189-00-9)	
Ecology - soil	Not established.

12.5. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Disposal methods

Sewage disposal recommendations : Do not dispose of waste into sewer.
Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.

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Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Not regulated.

Transport by sea

Transport document description (IMDG) : UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc dimethacrylate), 9, III, MARINE POLLUTANT

UN-No. (IMDG) : 3077

Proper Shipping Name (IMDG) : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

Class (IMDG) : 9 - Miscellaneous dangerous substances and articles

Packing group (IMDG) : III - substances presenting low danger

Limited quantities (IMDG) : 5 kg

Air transport

Transport document description (IATA) : UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc dimethacrylate), 9, III

UN-No. (IATA) : 3077

Proper Shipping Name (IATA) : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

Class (IATA) : 9 - Miscellaneous Dangerous Substances and Articles

Packing group (IATA) : III - Minor Danger

SECTION 15: Regulatory information

15.1. US Federal regulations

ZDMA (13189-00-9)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

This product or mixture is not known to contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

15.2. International regulations

CANADA

ZDMA (13189-00-9)

Listed on the Canadian DSL (Domestic Substances List) inventory.

National regulations

ZDMA (13189-00-9)

Listed on KECI (Korean Existing Chemicals Inventory)

Listed on the TCSI (Taiwan Chemical Substance Inventory)

Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory

Listed on the AICS (Australian Inventory of Chemical Substances)

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm.

SECTION 16: Other information

Data sources : European Chemicals Agency (ECHA) C&L Inventory database. Accessed at <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>. European Chemicals Agency (ECHA) Registered Substances list. Accessed at <http://echa.europa.eu/>. GHS Mexico. Krister Forsberg and S.Z. Mansdorf, "Quick Selection Guide to Chemical Protective Clothing", Fifth Edition. Manufacturer Information. National Fire Protection Association. Fire Protection Guide to Hazardous Materials; 10th edition. OSHA 29CFR 1910.1200 Hazard Communication Standard. TSCA Chemical Substance Inventory. Accessed

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at <http://www.epa.gov/oppt/existingchemicals/pubs/tscainventory/howto.html>.

Other information

: None.

Full text of H-statements:

H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.

Abbreviations and acronyms:

	ATE: Acute Toxicity Estimate
	CAS (Chemical Abstracts Service) number
	EC50: Environmental Concentration associated with a response by 50% of the test population.
	GHS: Globally Harmonized System (of Classification and Labeling of Chemicals).
	LD50: Lethal Dose for 50% of the test population
	STEL: Short Term Exposure Limits
	TSCA: Toxic Substances Control Act
	TWA: Time Weighted Average

NFPA health hazard

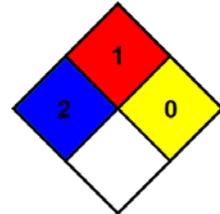
: 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.

NFPA fire hazard

: 1 - Materials that must be preheated before ignition can occur.

NFPA reactivity

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



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.