



# DMDM-Hydantoin

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations  
Revision Date: 12/12/2014 Date of Issue: 10/08/2014

Version: 1.0

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY

### 1.1. Product Identifier

**Product Form:** Substance

**Product Name:** DMDM-Hydantoin

**Synonyms:** DMDM-H, 1,3-bis(hydroxymethyl)-5,5-dimethylimidazolidine-2,4-dione

### 1.2. Intended Use of the Product

**Use of the substance/mixture:** Cosmetics, personal care products

### 1.3. Name, Address, and Telephone of the Responsible Party

#### Company

Chemistry Connection

253 Sturgis Road

Conway, AR 72034

(501) 470-9689

contact@thechemistryconnection.com

### 1.4. Emergency Telephone Number

**Emergency Number** : 800-424-9300

For Chemical Emergency, Spill, Leak, Fire, Exposure, or Accident, call CHEMTREC – Day or Night

## SECTION 2: HAZARDS IDENTIFICATION

### 2.1. Classification of the Substance or Mixture

#### Classification (GHS-US)

Skin Sens. 1 H317

Carc. 1A H350

### 2.2. Label Elements

#### GHS-US Labeling

##### Hazard Pictograms (GHS-US)



##### Signal Word (GHS-US)

: Danger

##### Hazard Statements (GHS-US)

: H317 - May cause an allergic skin reaction

H350 - May cause cancer

##### Precautionary Statements (GHS-US)

: P201 - Obtain special instructions before use.

P202 - Do not handle until all safety precautions have been read and understood.

P261 - Avoid breathing vapors, mist, spray.

P272 - Contaminated work clothing must not be allowed out of the workplace.

P280 - Wear eye protection, protective clothing, protective gloves.

P302+P352 - IF ON SKIN: Wash with plenty of water.

P308+P313 - If exposed or concerned: Get medical advice/attention.

P321 - Specific treatment (see Section 4).

P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.

P362+P364 - Take off contaminated clothing and wash it before reuse.

P405 - Store locked up.

P501 - Dispose of contents/container according to local, regional, national, and international regulations.

### 2.3. Other Hazards

No additional information available

### 2.4. Unknown Acute Toxicity (GHS-US)

No data available

### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.1. Substance

Not applicable

#### 3.2. Mixture

Name	Product Identifier	%	Classification (GHS-US)
Dimethylol-5,5-dimethylhydantoin	(CAS No) 6440-58-0	54 - 56	Acute Tox. 4 (Oral), H302
Water	(CAS No) 7789-20-0	43 - 45	Not classified
Formaldehyde	(CAS No) 50-00-0	< 1	Flam. Liq. 4, H227 Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation:gas), H331 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 Carc. 1A, H350 Aquatic Acute 2, H401

Full text of H-phrases: see section 16

### 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:** When symptoms occur: go into open air and ventilate suspected area.

**First-aid Measures After Skin Contact:** Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Obtain medical attention if irritation/rash develops or persists.

**First-aid Measures After Eye Contact:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

**First-aid Measures After Ingestion:** Rinse mouth. Do NOT induce vomiting.

#### 4.2. Most important symptoms and effects, both acute and delayed

**Symptoms/Injuries:** May cause an allergic skin reaction. May cause cancer.

**Symptoms/Injuries After Inhalation:** Not expected to present a significant inhalation hazard under anticipated conditions of normal use.

**Symptoms/Injuries After Skin Contact:** May cause an allergic skin reaction.

**Symptoms/Injuries After Eye Contact:** Direct contact with the eyes is likely irritating.

**Symptoms/Injuries After Ingestion:** If a large quantity has been ingested: May cause nausea, vomiting, and diarrhea.

**Chronic Symptoms:** May cause cancer.

#### 4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If medical advice is needed, have product container or label at hand.

### SECTION 5: FIREFIGHTING MEASURES

#### 5.1. Extinguishing Media

**Suitable Extinguishing Media:** Use extinguishing media appropriate for surrounding fire. Water spray or fog, dry chemical powder, alcohol-resistant foam, carbon dioxide (CO<sub>2</sub>).

**Unsuitable Extinguishing Media:** Do not use water jet. Use of heavy stream of water may spread fire.

#### 5.2. Special Hazards Arising From the Substance or Mixture

**Fire Hazard:** Not flammable.

**Explosion Hazard:** Product is not explosive.

**Reactivity:** Stable at ambient temperature and under normal conditions of use.

#### 5.3. Advice for Firefighters

**Firefighting Instructions:** Exercise caution when fighting any chemical fire.

**Protection During Firefighting:** Do not enter fire area without proper protective equipment, including respiratory protection.

### SECTION 6: ACCIDENTAL RELEASE MEASURES

#### 6.1. Personal Precautions, Protective Equipment and Emergency Procedures

**General Measures:** Handle in accordance with good industrial hygiene and safety practice.

### 6.1.1. For Non-emergency Personnel

**Protective Equipment:** Use appropriate personal protection equipment (PPE).

**Emergency Procedures:** Evacuate unnecessary personnel.

### 6.1.2. For Emergency Responders

**Protective Equipment:** Equip cleanup crew with proper protection.

**Emergency Procedures:** Ventilate area.

### 6.2. Environmental Precautions

Prevent entry to sewers and public waters.

### 6.3. Methods and Material for Containment and Cleaning Up

**For Containment:** Absorb and/or contain spill with inert material, then place in suitable container.

**Methods for Cleaning Up:** Collect spillage. Clear up spills immediately and dispose of waste safely.

### 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

**Hygiene Measures:** Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work. Do not eat, drink or smoke when using this product.

### 7.2. Conditions for Safe Storage, Including Any Incompatibilities

**Storage Conditions:** Store in a dry, cool and well-ventilated place. Keep container closed when not in use.

### 7.3. Specific End Use(s)

Cosmetics, personal care products

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Control Parameters

No Occupational Exposure Limits (OELs) have been established for this product or its chemical components.

### 8.2. Exposure Controls

**Personal Protective Equipment**

: Gloves. Safety glasses.



**Hand Protection**

: Wear chemically resistant protective gloves. The breakthrough time of the selected gloves must be greater than the intended use period.

**Eye Protection**

: Chemical goggles or safety glasses.

**Respiratory Protection**

: In case of inadequate ventilation wear respiratory protection.

**Other Information**

: When using, do not eat, drink or smoke.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. Information on Basic Physical and Chemical Properties

<b>Physical State</b>	: Liquid
<b>Appearance</b>	: Colorless
<b>Odor</b>	: Odorless
<b>Odor Threshold</b>	: No data available
<b>pH</b>	: 6.5 - 7.5
<b>Relative Evaporation Rate (butylacetate=1)</b>	: No data available
<b>Melting Point</b>	: No data available
<b>Freezing Point</b>	: No data available
<b>Boiling Point</b>	: No data available
<b>Flash Point</b>	: No data available
<b>Auto-ignition Temperature</b>	: No data available
<b>Decomposition Temperature</b>	: No data available
<b>Flammability (solid, gas)</b>	: No data available
<b>Vapor Pressure</b>	: 1.06 hPa x 10E-9 mm Hg @ 20°C (68 °F)

Relative Vapor Density at 20 °C	: No data available
Relative Density	: No data available
Specific Gravity	: 1.15-1.16 g/cm <sup>3</sup> @ 25°C (77 °F)
Solubility	: Water: Easily soluble
Partition coefficient: n-octanol/water	: -2.37
Log Kow	: No data available
Viscosity	: No data available
Explosive Properties	: No data available
Oxidizing Properties	: No data available
Explosive Limits	: Not applicable

### 9.2. Other Information

VOC content : ≤ 0.5 %

## SECTION 10: STABILITY AND REACTIVITY

- 10.1 Reactivity:** Stable at ambient temperature and under normal conditions of use.
- 10.2 Chemical Stability:** Product is stable.
- 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:** None known.
- 10.6 Hazardous Decomposition Products:** Under fire conditions this material may produce hazardous carbon dioxide (CO<sub>2</sub>), carbon monoxide (CO), various low molecular weight hydrocarbons, and smoke. Nitrogen oxides.

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1. Information On Toxicological Effects

Acute Toxicity : Not classified

<b>Dimethylol-5,5-dimethylhydantoin (6440-58-0)</b>	
LD50 Oral Rat	2 - 5 g/kg

<b>Formaldehyde (50-00-0)</b>	
LD50 Dermal Rat	1000 mg/kg
ATE (Oral)	100.0 mg/kg body weight
ATE (Gases)	700.0 ppmV/4h

**Skin Corrosion/Irritation:** Not classified **pH:** 6.5 - 7.5

**Serious Eye Damage/Irritation:** Not classified **pH:** 6.5 - 7.5

**Respiratory or Skin Sensitization:** May cause an allergic skin reaction.

**Germ Cell Mutagenicity:** Not classified

**Carcinogenicity:** May cause cancer.

<b>Formaldehyde (50-00-0)</b>	
IARC group	1
National Toxicity Program (NTP) Status	Known Human Carcinogens.

**Reproductive Toxicity:** Not classified

**Specific Target Organ Toxicity (Single Exposure):** Not classified

**Specific Target Organ Toxicity (Repeated Exposure):** Not classified

**Aspiration Hazard:** Not classified

**Symptoms/Injuries After Inhalation:** Not expected to present a significant inhalation hazard under anticipated conditions of normal use.

**Symptoms/Injuries After Skin Contact:** May cause an allergic skin reaction.

**Symptoms/Injuries After Eye Contact:** Direct contact with the eyes is likely irritating.

**Symptoms/Injuries After Ingestion:** If a large quantity has been ingested: May cause nausea, vomiting, and diarrhea.

**Chronic Symptoms:** May cause cancer.

## SECTION 12: ECOLOGICAL INFORMATION

### 12.1. Toxicity



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Dimethylol-5,5-dimethylhydantoin (6440-58-0)	
LC50 Fish 1	514 mg/l (Freshwater [96h static] Species: Oncorhynchus mykiss)
Formaldehyde (50-00-0)	
LC50 Fish 1	22.6 - 25.7 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	2 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC 50 Fish 2	1510 µg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])
EC50 Daphnia 2	11.3 - 18 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])

### 12.2. Persistence and Degradability

DMDM-H	
Persistence and Degradability	The substance is biodegradable. Unlikely to persist.

### 12.3. Bioaccumulative Potential

DMDM-H	
Bioaccumulative Potential	Based on the n-octanol/water partition coefficient accumulation in organisms is not expected.
Formaldehyde (50-00-0)	
Log Pow	0.35 (at 25 °C)

**12.4. Mobility in Soil** No additional information available

### 12.5. Other Adverse Effects

**Other Information** : Avoid release to the environment.

## SECTION 13: DISPOSAL CONSIDERATIONS

### 13.1. Waste treatment methods

**Waste Disposal Recommendations:** Dispose of waste material in accordance with all local, regional, national, and international regulations.

## SECTION 14: TRANSPORT INFORMATION

In Accordance With ICAO/IATA/IMDG/DOT

**14.1. UN Number** Not regulated for transport

**14.2. UN Proper Shipping Name** Not regulated for transport

### 14.3. Additional Information

**Other information** : No supplementary information available.

**Transport by Sea** Not regulated for transport

**Air Transport** Not regulated for transport

## SECTION 15: REGULATORY INFORMATION

### 15.1 US Federal Regulations

DMDM-H	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard
Dimethylol-5,5-dimethylhydantoin (6440-58-0)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Formaldehyde (50-00-0)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Listed on the United States SARA Section 302	
Listed on United States SARA Section 313	
SARA Section 302 Threshold Planning Quantity (TPQ)	500
SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard Immediate (acute) health hazard Fire hazard
SARA Section 313 - Emission Reporting	0.1 %
Water (7789-20-0)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

### 15.2 US State Regulations



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### Formaldehyde (50-00-0)

#### U.S. - California - Proposition 65 - Carcinogens List

WARNING: This product contains chemicals known to the State of California to cause cancer.

### Formaldehyde (50-00-0)

U.S. - California - SCAQMD - Toxic Air Contaminants - Carcinogens  
U.S. - California - SCAQMD - Toxic Air Contaminants - Non-Cancer Acute  
U.S. - California - SCAQMD - Toxic Air Contaminants - Non-Cancer Chronic  
U.S. - California - SDAPCD - Toxic Air Contaminants - Carcinogenic Impacts Must Be Calculated  
U.S. - California - Toxic Air Contaminant List (AB 1807, AB 2728)  
U.S. - Colorado - Hazardous Wastes - Discarded Chemical Products, Off-Specification Species, Container and Spill Residues  
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (30 min)  
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (8 hr)  
U.S. - Delaware - Accidental Release Prevention Regulations - Sufficient Quantities  
U.S. - Delaware - Accidental Release Prevention Regulations - Threshold Quantities  
U.S. - Delaware - Accidental Release Prevention Regulations - Toxic Endpoints  
U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities  
U.S. - Idaho - Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations  
U.S. - Idaho - Carcinogenic Toxic Air Pollutants - Emission Levels (ELs)  
U.S. - Idaho - Occupational Exposure Limits - Acceptable Maximum Peak Above the Ceiling Concentration for an 8-Hour Shift  
U.S. - Idaho - Occupational Exposure Limits - Ceilings  
U.S. - Idaho - Occupational Exposure Limits - TWAs  
U.S. - Illinois - Toxic Air Contaminant Carcinogens  
U.S. - Illinois - Toxic Air Contaminants  
U.S. - Louisiana - Reportable Quantity List for Pollutants  
U.S. - Maine - Air Pollutants - Hazardous Air Pollutants  
U.S. - Maine - Chemicals of High Concern  
U.S. - Massachusetts - Allowable Ambient Limits (AALs)  
U.S. - Massachusetts - Allowable Threshold Concentrations (ATCs)  
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 1  
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 2  
U.S. - Massachusetts - Oil & Hazardous Material List - Reportable Quantity  
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 1  
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 2  
RTK - U.S. - Massachusetts - Right To Know List  
U.S. - Massachusetts - Threshold Effects Exposure Limits (TELs)  
U.S. - Massachusetts - Toxics Use Reduction Act  
U.S. - Michigan - Occupational Exposure Limits - STELs  
U.S. - Michigan - Occupational Exposure Limits - TWAs  
U.S. - Michigan - Polluting Materials List  
U.S. - Michigan - Process Safety Management Highly Hazardous Chemicals  
U.S. - Minnesota - Chemicals of High Concern  
U.S. - Minnesota - Groundwater Health Risk Limits  
U.S. - Minnesota - Hazardous Substance List  
U.S. - New Hampshire - Prohibited Volatile Organic Compounds  
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - 24-Hour  
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - Annual  
U.S. - New Jersey - Discharge Prevention - List of Hazardous Substances  
U.S. - New Jersey - Environmental Hazardous Substances List  
RTK - U.S. - New Jersey - Right to Know Hazardous Substance List  
U.S. - New Jersey - Special Health Hazards Substances List  
U.S. - New Jersey - TCPA - Extraordinarily Hazardous Substances (EHS)  
U.S. - New Jersey - Water Quality - Ground Water Quality Criteria  
U.S. - New Jersey - Water Quality - Practical Quantitation Levels (PQLs)  
U.S. - New York - Occupational Exposure Limits - Ceilings  
U.S. - New York - Priority Chemical Avoidance List  
U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances



U.S. - North Carolina - Control of Toxic Air Pollutants  
 U.S. - North Dakota - Air Pollutants - Guideline Concentrations - 1-Hour  
 U.S. - North Dakota - Air Pollutants - Unit Risk Factors  
 U.S. - North Dakota - Hazardous Wastes - Discarded Chemical Products, Off-Specification Species, Container and Spill Residues  
 U.S. - Ohio - Accidental Release Prevention - Threshold Quantities  
 U.S. - Ohio - Extremely Hazardous Substances - Threshold Quantities  
 U.S. - Oregon - Permissible Exposure Limits - STELs  
 U.S. - Oregon - Permissible Exposure Limits - TWAs  
 U.S. - California - Safer Consumer Products - Initial List of Candidate Chemicals and Chemical Groups  
 RTK - U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List  
 RTK - U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances  
 RTK - U.S. - Pennsylvania - RTK (Right to Know) List  
 U.S. - Rhode Island - Air Toxics - Acceptable Ambient Levels - 1-Hour  
 U.S. - Rhode Island - Air Toxics - Acceptable Ambient Levels - 24-Hour  
 U.S. - Rhode Island - Air Toxics - Acceptable Ambient Levels - Annual  
 U.S. - South Carolina - Toxic Air Pollutants - Maximum Allowable Concentrations  
 U.S. - South Carolina - Toxic Air Pollutants - Pollutant Categories  
 U.S. - Tennessee - Occupational Exposure Limits - STELs  
 U.S. - Tennessee - Occupational Exposure Limits - TWAs  
 U.S. - Texas - Effects Screening Levels - Long Term  
 U.S. - Texas - Effects Screening Levels - Short Term  
 U.S. - Vermont - Hazardous Waste - Hazardous Constituents  
 U.S. - Vermont - Permissible Exposure Limits - Ceilings  
 U.S. - Vermont - Permissible Exposure Limits - STELs  
 U.S. - Vermont - Permissible Exposure Limits - TWAs  
 U.S. - Washington - Dangerous Waste - Dangerous Waste Constituents List  
 U.S. - Washington - Dangerous Waste - Discarded Chemical Products List  
 U.S. - Washington - Permissible Exposure Limits - STELs  
 U.S. - Washington - Permissible Exposure Limits - TWAs  
 U.S. - West Virginia - Air Quality - Toxic Air Pollutant Emission Limits  
 U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 25 Feet to Less Than 40 Feet  
 U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 40 Feet to Less Than 75 Feet  
 U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 75 Feet or Greater  
 U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights Less Than 25 Feet  
 U.S. - Wyoming - Process Safety Management - Highly Hazardous Chemicals

## SECTION 16: OTHER INFORMATION

**Revision date** : 12/12/2014

**Other Information** : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

**Supplemental Information** : Not classified as PBT or vPvB.

### GHS Full Text Phrases:

Acute Tox. 3 (Dermal)	Acute toxicity (dermal) Category 3
Acute Tox. 3 (Inhalation:gas)	Acute toxicity (inhalation:gas) Category 3
Acute Tox. 3 (Oral)	Acute toxicity (oral) Category 3
Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Acute 2	Hazardous to the aquatic environment - Acute Hazard Category 2
Carc. 1A	Carcinogenicity Category 1A
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Flam. Liq. 4	Flammable liquids Category 4
Skin Corr. 1B	Skin corrosion/irritation Category 1B
Skin Sens. 1	Skin sensitization Category 1
H227	Combustible liquid
H301	Toxic if swallowed



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H302	Harmful if swallowed
H311	Toxic in contact with skin
H314	Causes severe skin burns and eye damage
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H331	Toxic if inhaled
H350	May cause cancer
H401	Toxic to aquatic life

*The data herein are based on our current knowledge and believed to be reliable. Chemistry Connection provides this information without any representation or warranty, expressed or implied, regarding its accuracy or correctness.*

*Users must make their own determination that handling, storage, use and disposal of the product in the anticipated manner is safe and appropriate. Because these actions of the user are out of our control, and may be beyond our knowledge, we do not assume responsibility and expressly disclaim liability for loss, damage, expense or any other claim arising out of or in any way connected with the handling, storage, use or disposal of the product or container.*