

# Safety Data Sheet

## Die Hardener

SDS Revision Date:

05/18/2015

### 1. Identification

#### 1.1. Product identifier

**Product Identity** Die Hardener  
**Alternate Names** Stone Die & Plaster Hardener-Resin or Thinner

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

**Intended use** See Technical Data Sheet.  
**Application Method** See Technical Data Sheet.

#### 1.3. Details of the supplier of the safety data sheet

**Company Name** J. Morita USA  
9 Mason  
Irvine, CA 92618

#### Emergency

**CHEMTREC (USA)** (800) 424-9300  
**24 hour Emergency Telephone No.** 201-798-5353  
**Customer Service: J. Morita USA** 1-800-831-3222 (US & Canada)  
+1-949-581-9600 (Outside US & Canada)

### 2. Hazard(s) identification

#### 2.1. Classification of the substance or mixture

Flam. Liq. 2;H225	Highly Flammable liquid and vapor.
Eye Irrit. 2;H319	Causes serious eye irritation.
Skin Sens. 1;H317	May cause an allergic skin reaction.
STOT SE 3;H336	May cause drowsiness or dizziness.

#### 2.2. Label elements

Using the Toxicity Data listed in section 11 and 12 the product is labeled as follows.



**Danger**

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H225 Highly flammable liquid and vapor.  
H317 May cause an allergic skin reaction.  
H319 Causes serious eye irritation.  
H336 May cause drowsiness and dizziness.

### **[Prevention]:**

P210 Keep away from heat / sparks / open flames / hot surfaces - No smoking.  
P235 Keep cool.  
P240 Ground / bond container and receiving equipment.  
P241 Use explosion-proof electrical / ventilating / light / equipment.  
P242 Use only non-sparking tools.  
P243 Take precautionary measures against static discharge.  
P261 Avoid breathing dust / fume / gas / mist / vapors / spray.  
P264 Wash thoroughly after handling.  
P271 Use only outdoors or in a well-ventilated area.  
P272 Contaminated work clothing should not be allowed out of the workplace.  
P280 Wear protective gloves / eye protection / face protection.

### **[Response]:**

P302+352 IF ON SKIN: Wash with plenty of soap and water.  
P303+361+353 IF ON SKIN (or hair): Remove / Take off immediately all contaminated clothing. Rinse skin with water / shower.  
P304+312 IF INHALED: Call a POISON CENTER or doctor / physician if you feel unwell.  
P305+351+338 IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing.  
P313 Get medical advice / attention.  
P321 Specific treatment (see information on this label).  
P333+313 If skin irritation or a rash occurs: Get medical advice / attention.  
P337+313 If eye irritation persists: Get medical advice / attention.  
P340 Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
P363 Wash contaminated clothing before reuse.  
P370+378 In case of fire: Use extinguishing media listed in section 5 of SDS for extinction.

### **[Storage]:**

P403+233 Store in a well ventilated place. Keep container tightly closed.  
P405 Store locked up.

### **[Disposal]:**

P501 Dispose of contents / container in accordance with local / national regulations.

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### 3. Composition/information on ingredients

This product contains the following substances that present a hazard within the meaning of the relevant State and Federal Hazardous Substances regulations.

Ingredient/Chemical Designations	Weight %	GHS Classification	Notes
<b>Butanone</b> CAS Number: 0000078-93-3	75 - 100	Flam. Liq. 2;H225 Eye Irrit. 2;H319 STOT SE 3;H336	[1][2]
<b>Methyl methacrylate</b> CAS Number: 0000080-62-6	0.10 - 1.0	Flam. Liq. 2;H225 STOT SE 3;H335 Skin Irrit. 2;H315 Skin Sens. 1;H317	[1][2]

In accordance with paragraph (i) of §1910.1200, the specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

[1] Substance classified with a health or environmental hazard.

[2] Substance with a workplace exposure limit.

[3] PBT-substance or vPvB-substance.

\*The full texts of the phrases are shown in Section 16.

### 4. First aid measures

#### 4.1. Description of first aid measures

##### General

In all cases of doubt, or when symptoms persist, seek medical attention.  
Never give anything by mouth to an unconscious person.

##### Inhalation

Remove to fresh air, keep patient warm and at rest. If breathing is irregular or stopped, give artificial respiration. If unconscious place in the recovery position and obtain immediate medical attention. Give nothing by mouth.

##### Eyes

Irrigate copiously with clean water for at least 15 minutes, holding the eyelids apart and seek medical attention.

##### Skin

Remove contaminated clothing. Wash skin thoroughly with soap and water or use a recognized skin cleanser.

##### Ingestion

If swallowed obtain immediate medical attention. Keep at rest. Do NOT induce vomiting.

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

##### Overview

Drowsiness, dizziness, nausea, vomiting, diarrhea, headache, allergic skin reaction, abdominal pain, Exposure to solvent vapor concentrations from the component solvents in excess of the stated occupational exposure limits may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms include headache, nausea, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness.

Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in dryness, irritation and possible non-allergic contact dermatitis. Solvents may also be absorbed through the skin. Splashes of liquid in the eyes may cause irritation and soreness with possible reversible damage. See section 2 for further details.

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**Inhalation** May cause drowsiness or dizziness.  
**Eyes** Causes serious eye irritation.  
**Skin** May cause an allergic skin reaction.

### 5. Fire-fighting measures

#### 5.1. Extinguishing media

Recommended extinguishing media; alcohol resistant foam, CO<sub>2</sub>, powder, water spray.  
Do not use: water jet.

#### 5.2. Special hazards arising from the substance or mixture

Hazardous decomposition: Oxides of carbon. May yield acrylic monomers.

Keep away from heat / sparks / open flames / hot surfaces - No smoking.

Keep cool.

Ground / bond container and receiving equipment.

Use explosion-proof electrical / ventilating / light / equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Avoid breathing dust / fume / gas / mist / vapors / spray.

#### 5.3. Advice for fire-fighters

Special Fire Fighting Procedures: Wear MSHA/NIOSH approved pressure demand, self-contained breathing apparatus with full protective equipment. Cool fire-exposed containers with water spray. High pressure solid stream of water will spread the fire.

Unusual Fire and Explosion Hazards: Solvent vapors can travel to an ignition source and flash back. Explosive mixtures can form with air. Hazardous decomposition products: carbon monoxide.

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### 6. Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

Put on appropriate personal protective equipment (see section 8).

#### 6.2. Environmental precautions

Do not allow spills to enter drains or waterways.

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

#### 6.3. Methods and material for containment and cleaning up

Personal Precautions: Appropriate protective equipment must be worn for handling spill, see Section 8. If exposed to material, see Section 6.

Environmental Precautions: Warning - Keep spills and cleaning runoffs out of municipal sewers and open bodies of

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water.

Waste Disposal Method:

Spill Clean up: Eliminate all ignition sources. Evacuate personnel to safe areas. Ventilate the area. Floor may be slippery, use caution. Soak up with inert absorbent material (Paper towel, sand, silica gel, sawdust). Avoid breathing vapor. Wear MSHA/NIOSH approved respirator. Note: Spills on porous surfaces can contaminate ground water.

**NORMAL DISPOSAL:**

Waste Classification: Methyl Ethyl Ketone (78-93-3), 40 CFR 261.20-.24. For discard, this is classified as a hazardous waste with the characteristic of ignitability and toxicity. RCRA #D001. Reportable quantity is 100 lbs.(40 CFR 302) Incinerate liquid and contaminated solids in accordance with local, state, and federal regulations. (See 40 CFR 268). For small quantity spills, allow solvent in paper towel to evaporate in well ventilated areas or outdoors (preferred).

**CONTAMINATED PACKAGING:** Empty containers should be taken for local recycling or waste disposal.

## 7. Handling and storage

### 7.1. Precautions for safe handling

Store in accordance with the National Fire Protection Association's publication NFPA 30, Flammable and Combustible Liquids Code. 29 CFR 1910.106 applies to the handling, storage, and use of flammable and combustible liquids.

See section 2 for further details. - [Prevention]:

### 7.2. Conditions for safe storage, including any incompatibilities

Handle containers carefully to prevent damage and spillage.

Incompatible materials: Avoid contact with strong oxidizers, strong acids and strong bases.

Precautions to Be Taken in Handling and Storing: Use of proper ventilation required. Use non-sparking tools and grounding cables when transferring. Wash after handling. Storage: Avoid temperature extremes during storage. Store out of sunlight and in cool place. Keep containers tightly capped. Clean neck of resin container free of resin buildup to maintain proper seal. Store containers in approved area for flammables. Avoid ignition sources, e.g handpiece motor, bunsen burner.

Other Precautions: CONTAINERS MAY BE HAZARDOUS WHEN EMPTY. Emptied containers contain residue. Follow all MSDS and labels.

See section 2 for further details. - [Storage]:

### 7.3. Specific end use(s)

No data available.

## 8. Exposure controls and personal protection

### 8.1. Control parameters

#### Exposure

CAS No.	Ingredient	Source	Value
0000078-93-3	Butanone	OSHA	TWA 200 ppm (590 mg/m3)
		ACGIH	TWA: 50 ppm STEL: 100 ppm

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		NIOSH	TWA 200 ppm (590 mg/m <sup>3</sup> ) ST 300 ppm (885 mg/m <sup>3</sup> )
		Supplier	No Established Limit
0000080-62-6	Methyl methacrylate	OSHA	TWA 100 ppm (410 mg/m <sup>3</sup> )
		ACGIH	TWA: 50 ppm STEL: 100 ppm S
		NIOSH	TWA 100 ppm (410 mg/m <sup>3</sup> )
		Supplier	No Established Limit

### Carcinogen Data

CAS No.	Ingredient	Source	Value
0000078-93-3	Butanone	OSHA	Select Carcinogen: No
		NTP	Known: No; Suspected: No
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;
0000080-62-6	Methyl methacrylate	OSHA	Select Carcinogen: No
		NTP	Known: No; Suspected: No
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: Yes; Group 4: No;

### 8.2. Exposure controls

#### Respiratory

If workers are exposed to concentrations above the exposure limit they must use the appropriate, certified respirators.

#### Eyes

Chemical-resistant goggles

#### Skin

Use chemical-resistant apron or other impervious clothing, and rubber boots if necessary, to avoid contaminating regular clothing and shoes and to prevent skin contact. General ventilation.

#### Engineering Controls

Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and any vapor below occupational exposure limits suitable respiratory protection must be worn.

#### Other Work Practices

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

See section 2 for further details. - [Prevention]:

## 9. Physical and chemical properties

#### Appearance

Clear, light yellow or colorless Liquid

#### Odor

Pungent, sweet odor

#### Odor threshold

Not determined

#### pH

Not Measured

#### Melting point / freezing point

-122.8 F

#### Initial boiling point and boiling range

175.3 F

#### Flash Point

24.8 F/-4 C (TCC)

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<b>Evaporation rate (Ether = 1)</b>	> 1.0 (Butyl Acetate = 1)
<b>Flammability (solid, gas)</b>	Not Applicable
<b>Upper/lower flammability or explosive limits</b>	<b>Lower Explosive Limit:</b> 1.8 <b>Upper Explosive Limit:</b> 11.5
<b>Vapor pressure (Pa)</b>	80 mm Hg @ 20C
<b>Vapor Density</b>	> 1.0 (Air = 1)
<b>Specific Gravity</b>	0.95 - 1.0 (H2O = 1)
<b>Solubility in Water</b>	Partially for resin, moderately for thinner
<b>Partition coefficient n-octanol/water (Log Kow)</b>	Not Measured
<b>Auto-ignition temperature</b>	Not Measured
<b>Decomposition temperature</b>	Not Measured
<b>Viscosity (cSt)</b>	> 30 sec (Zahn # 1 cup)
<b>% Volatile</b>	> 80%

### 9.2. Other information

No other relevant information.

## 10. Stability and reactivity

### 10.1. Reactivity

Hazardous Polymerization will not occur.

### 10.2. Chemical stability

Stable under normal circumstances.

### 10.3. Possibility of hazardous reactions

No data available.

### 10.4. Conditions to avoid

Avoid excessive heat, open flames and all ignition sources.

### 10.5. Incompatible materials

Avoid contact with strong oxidizers, strong acids and strong bases.

### 10.6. Hazardous decomposition products

Oxides of carbon. May yield acrylic monomers.

## 11. Toxicological information

### Acute toxicity

Exposure to solvent vapor concentrations from the component solvents in excess of the stated occupational exposure limits may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms include headache, nausea, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness.

Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in dryness, irritation and possible non-allergic contact dermatitis. Solvents may also be absorbed through the skin.

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Splashes of liquid in the eyes may cause irritation and soreness with possible reversible damage.

Ingredient	Oral LD50, mg/kg	Skin LD50, mg/kg	Inhalation Vapor LC50, mg/L/4hr	Inhalation Dust/Mist LC50, mg/L/4hr	Inhalation Gas LC50, ppm
Butanone - (78-93-3)	2,737.00, Rat - Category: 5	6,480.00, Rabbit - Category: NA	32.00, Mouse - Category: NA	No data available	No data available
Methyl methacrylate - (80-62-6)	5,000.00, Rat - Category: 5	5,000.00, Rabbit - Category: 5	29.80, Rat - Category: NA	No data available	No data available

Note: When no route specific LD50 data is available for an acute toxin, the converted acute toxicity point estimate was used in the calculation of the product's ATE (Acute Toxicity Estimate).

Classification	Category	Hazard Description
Acute toxicity (oral)	---	Not Applicable
Acute toxicity (dermal)	---	Not Applicable
Acute toxicity (inhalation)	---	Not Applicable
Skin corrosion/irritation	---	Not Applicable
Serious eye damage/irritation	2	Causes serious eye irritation.
Respiratory sensitization	---	Not Applicable
Skin sensitization	1	May cause an allergic skin reaction.
Germ cell mutagenicity	---	Not Applicable
Carcinogenicity	---	Not Applicable
Reproductive toxicity	---	Not Applicable
STOT-single exposure	3	May cause drowsiness or dizziness.
STOT-single exposure	---	Not Applicable
STOT-repeated exposure	---	Not Applicable
Aspiration hazard	---	Not Applicable

## 12. Ecological information

### 12.1. Toxicity

No additional information provided for this product. See Section 3 for chemical specific data.

#### Aquatic Ecotoxicity

Ingredient	96 hr LC50 fish, mg/l	48 hr EC50 crustacea, mg/l	ErC50 algae, mg/l
Butanone - (78-93-3)	400.00, Cyprinodon variegatus	520.00, Daphnia magna	500.00 (96 hr), Skeletonema costatum



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Methyl methacrylate - (80-62-6)	79.00, Oncorhynchus mykiss	69.00, Daphnia magna	170.00 (96 hr), Selenastrum capricornutum
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### 12.2. Persistence and degradability

There is no data available on the preparation itself.

### 12.3. Bioaccumulative potential

Not Measured

### 12.4. Mobility in soil

No data available.

### 12.5. Results of PBT and vPvB assessment

This product contains no PBT/vPvB chemicals.

### 12.6. Other adverse effects

No data available.

## 13. Disposal considerations

### 13.1. Waste treatment methods

Observe all federal, state and local regulations when disposing of this substance.

## 14. Transport information

	DOT (Domestic Surface Transportation)	IMO / IMDG (Ocean Transportation)	ICAO/IATA
14.1. UN number	UN1993	UN1993	UN1993
14.2. UN proper shipping name	UN1993, Flammable liquids, n.o.s. 3, II	Flammable liquids, n.o.s.	Flammable liquids, n.o.s.
14.3. Transport hazard class(es)	DOT Hazard Class: 3	IMDG: 3 Sub Class: Not Applicable	Air Class: 3
14.4. Packing group	II	II	II
14.5. Environmental hazards			
IMDG	Marine Pollutant: No		
14.6. Special precautions for user	No further information		

## 15. Regulatory information

**Regulatory Overview** The regulatory data in Section 15 is not intended to be all-inclusive, only selected regulations are represented.

**Toxic Substance** All components of this material are either listed or exempt from listing on the TSCA

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**Control Act ( TSCA)** Inventory.

**WHMIS Classification** B2 D2B

**US EPA Tier II Hazards**

**Fire:** Yes

**Sudden Release of Pressure:** No

**Reactive:** No

**Immediate (Acute):** Yes

**Delayed (Chronic):** No

**EPCRA 311/312 Chemicals and RQs (lbs):**

Butanone ( 5,000.00)

**EPCRA 302 Extremely Hazardous:**

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

**EPCRA 313 Toxic Chemicals:**

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

**Proposition 65 - Carcinogens (>0.0%):**

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

**Proposition 65 - Developmental Toxins (>0.0%):**

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

**Proposition 65 - Female Repro Toxins (>0.0%):**

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

**Proposition 65 - Male Repro Toxins (>0.0%):**

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

**New Jersey RTK Substances (>1%):**

Butanone

**Pennsylvania RTK Substances (>1%):**

Butanone

## 16. Other information

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to our products. Customers/users of this product must comply with all applicable health and safety laws, regulations, and orders.

The full text of the phrases appearing in section 3 is:

H225 Highly flammable liquid and vapor.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

H336 May cause drowsiness and dizziness.

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This is the first version in the GHS SDS format. Listings of changes from previous versions in other formats are not applicable.

End of Document

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Regional Partner



L-1142 07/15