

1 Identification

- **Product identifier**
- **Trade name: Dual Cure 178 Silvers & Aluminums**
- **Article number: 178SXXX**
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Baril Coatings USA, LLC
401 Growth Parkway
Angola, IN 46703
- **Information department: Product safety department**
- **Emergency telephone number: During normal opening times: +1 (260) 665-8431**

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Flam. Liq. 3 H226 Flammable liquid and vapor.

Water-react. 1 H260 In contact with water releases flammable gases, which may ignite spontaneously.



GHS08 Health hazard

Muta. 1B H340 May cause genetic defects.

Carc. 1A H350 May cause cancer.

STOT RE 1 H372 Causes damage to the central nervous system through prolonged or repeated exposure.



GHS07

Skin Sens. 1 H317 May cause an allergic skin reaction.

- **Label elements**
- **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS02



GHS07



GHS08

- **Signal word Danger**

Trade name: Dual Cure 178 Silvers & Aluminums

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Hazard-determining components of labeling:

tetraethyl-N,N'-(methylenedicyclohexane-4,1-diyl)bis-DL-aspartate

Stoddard solvent

Solvent naphtha (petroleum), light arom.

Quartz (SiO₂)**Hazard statements**

Flammable liquid and vapor.

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

May cause an allergic skin reaction.

May cause genetic defects.

May cause cancer.

Causes damage to the central nervous system through prolonged or repeated exposure.

Precautionary statements

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

Keep out of reach of children.

Read label before use.

Obtain special instructions before use.

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

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

Do not allow contact with water.

Handle under inert gas. Protect from moisture.

Keep container tightly closed.

Ground/bond container and receiving equipment.

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

Use only non-sparking tools.

Take precautionary measures against static discharge.

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

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

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

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

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

If exposed or concerned: Get medical advice/attention.

Specific treatment (see on this label).

Get medical advice/attention if you feel unwell.

If skin irritation or rash occurs: Get medical advice/attention.

Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages.

Wash contaminated clothing before reuse.

In case of fire: Use for extinction: CO₂, sand, extinguishing powder.

Store in a dry place. Store in a closed container.

Store in a well-ventilated place. Keep cool.

Store locked up.

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

Classification system:**NFPA ratings (scale 0 - 4)**

Health = 1

Fire = 3

Reactivity = 2

HMIS-ratings (scale 0 - 4)

Health = *2

Fire = 3

Reactivity = 2

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- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Hazardous substances listed below.

- **Dangerous components:**

7727-43-7	barium sulphate, natural	>10-≤25%
628-63-7	pentyl acetate	>10-≤25%
136210-30-5	tetraethyl-N,N'-(methylenedicyclohexane-4,1-diyl)bis-DL-aspartate	>10-≤25%
108-65-6	2-methoxy-1-methylethyl acetate	>2.5-≤10%
7429-90-5	aluminium powder (pyrophoric)	>2.5-≤10%
624-41-9	2-methylbutyl acetat	>2.5-≤10%
8052-41-3	Stoddard solvent	0.1-≤2.5%
64742-95-6	Solvent naphtha (petroleum), light arom.	0.1-≤2.5%
14808-60-7	Quartz (SiO ₂)	0.1-≤2.5%
1333-86-4	Carbon black	0.1-≤2.5%

4 First-aid measures

- **Description of first aid measures**
- **After inhalation:**
Supply fresh air and to be sure call for a doctor.
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

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6 Accidental release measures· **Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

· **Environmental precautions:**

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow to enter sewers/ surface or ground water.

· **Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Do not flush with water or aqueous cleansing agents

· **Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

· **Protective Action Criteria for Chemicals**· **PAC-1:**

7727-43-7	barium sulphate, natural	15 mg/m ³
628-63-7	pentyl acetate	100 ppm
108-65-6	2-methoxy-1-methylethyl acetate	50 ppm
7779-90-0	trizinc bis(orthophosphate)	12 mg/m ³
1314-13-2	zinc oxide	10 mg/m ³
8052-41-3	Stoddard solvent	300 mg/m ³
14808-60-7	Quartz (SiO ₂)	0.075 mg/m ³
1333-86-4	Carbon black	9 mg/m ³
546-93-0	Magnesite	45 mg/m ³

· **PAC-2:**

7727-43-7	barium sulphate, natural	170 mg/m ³
628-63-7	pentyl acetate	670 ppm
108-65-6	2-methoxy-1-methylethyl acetate	1,000 ppm
7779-90-0	trizinc bis(orthophosphate)	36 mg/m ³
1314-13-2	zinc oxide	15 mg/m ³
8052-41-3	Stoddard solvent	1,800 mg/m ³
14808-60-7	Quartz (SiO ₂)	33 mg/m ³
1333-86-4	Carbon black	99 mg/m ³
546-93-0	Magnesite	260 mg/m ³

· **PAC-3:**

7727-43-7	barium sulphate, natural	990 mg/m ³
628-63-7	pentyl acetate	4000* ppm
108-65-6	2-methoxy-1-methylethyl acetate	5000* ppm
7779-90-0	trizinc bis(orthophosphate)	220 mg/m ³
1314-13-2	zinc oxide	2,500 mg/m ³
8052-41-3	Stoddard solvent	29500** mg/m ³
14808-60-7	Quartz (SiO ₂)	200 mg/m ³
1333-86-4	Carbon black	590 mg/m ³

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546-93-0 Magnesite

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1,600 mg/m³

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Prevent formation of aerosols.
- **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Keep receptacle tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**
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.

7727-43-7 barium sulphate, natural	
PEL	Long-term value: 15* 5** mg/m ³ *total dust **respirable fraction
REL	Long-term value: 10* 5** mg/m ³ *total dust **respirable fraction
TLV	Long-term value: 5* mg/m ³ *inhalable fraction; E
628-63-7 pentyl acetate	
PEL	Long-term value: 525 mg/m ³ , 100 ppm
REL	Long-term value: 525 mg/m ³ , 100 ppm
TLV	Short-term value: 532 mg/m ³ , 100 ppm Long-term value: 266 mg/m ³ , 50 ppm
108-65-6 2-methoxy-1-methylethyl acetate	
WEEL	Long-term value: 50 ppm
624-41-9 2-methylbutyl acetat	
TLV	Short-term value: 532 mg/m ³ , 100 ppm Long-term value: 266 mg/m ³ , 50 ppm

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8052-41-3 Stoddard solvent

PEL	Long-term value: 2900 mg/m ³ , 500 ppm
REL	Long-term value: 350 mg/m ³ Ceiling limit value: 1800* mg/m ³ *15-min
TLV	Long-term value: 525 mg/m ³ , 100 ppm

14808-60-7 Quartz (SiO₂)

PEL	Long-term value: 0.05* mg/m ³ *resp. dust; 30mg/m ³ /%SiO ₂ +2
REL	Long-term value: 0.05* mg/m ³ *respirable dust; See Pocket Guide App. A
TLV	Long-term value: 0.025* mg/m ³ *as respirable fraction

1333-86-4 Carbon black

PEL	Long-term value: 3.5 mg/m ³
REL	Long-term value: 3.5* mg/m ³ *0.1 in presence of PAHs; See Pocket Guide Apps. A+C
TLV	Long-term value: 3* mg/m ³ *inhalable fraction

· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

- Keep away from foodstuffs, beverages and feed.
- Immediately remove all soiled and contaminated clothing.
- Wash hands before breaks and at the end of work.
- Store protective clothing separately.

· **Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

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· Eye protection:



Tightly sealed goggles

9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

Form:	Liquid
Color:	Silver-colored
Odor:	Solvent-like
Odor threshold:	Not determined.

· pH-value: Not determined.

· Change in condition

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	138 °C (280.4 °F)

· Flash point: 23 °C (73.4 °F)

· Flammability (solid, gaseous): Not applicable.

· Ignition temperature: 315 °C (599 °F)

· Decomposition temperature: Not determined.

· Auto igniting: Product is not selfigniting.

· Danger of explosion: Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

· Explosion limits:

Lower:	1 Vol %
Upper:	7.5 Vol %

· Vapor pressure at 20 °C (68 °F): 5.3 hPa (4 mm Hg)

· Density at 20 °C (68 °F): 1.71 g/cm³ (14.27 lbs/gal)

· Relative density: Not determined.

· Vapor density: Not determined.

· Evaporation rate: Not determined.

· Solubility in / Miscibility with

Water: Miscible

· Partition coefficient (n-octanol/water): Not determined.

· Viscosity:

Dynamic:	Not determined.
Kinematic:	Not determined.

· Solvent content:

Organic solvents:	23.8 %
VOC content:	23.77 %
	406.5 g/l / 3.39 lb/gal

Solids content: 72.9 % (by weight)

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· **Other information:** No further relevant information available.**10 Stability and reactivity**

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **Possibility of hazardous reactions** Contact with water releases flammable gases.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information· **Information on toxicological effects**· **Acute toxicity:**· **LD/LC50 values that are relevant for classification:****7779-90-0 trizinc bis(orthophosphate)**

Oral LD50 >5,000 mg/kg (rat)

1314-13-2 zinc oxide

Oral LD50 >5,000 mg/kg (rat)

64742-95-6 Solvent naphtha (petroleum), light arom.

Oral LD50 >6,800 mg/kg (rat)

Dermal LD50 >3,400 mg/kg (rab)

Inhalative LC50/4 h >10.2 mg/l (rat)

· **Primary irritant effect:**· **on the skin:** No irritant effect.· **on the eye:** No irritating effect.· **Sensitization:** Sensitization possible through skin contact.· **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:

Irritant

Carcinogenic.

The product can cause inheritable damage.

· **Carcinogenic categories**· **IARC (International Agency for Research on Cancer)**14807-96-6 Talc (Mg₃H₂(SiO₃)₄)

3

14808-60-7 Quartz (SiO₂)

1

1333-86-4 Carbon black

2B

· **NTP (National Toxicology Program)**14808-60-7 Quartz (SiO₂)

K

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

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12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Toxic for fish
- **Additional ecological information:**
- **General notes:**
Water hazard class 3 (Self-assessment): extremely hazardous for water
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Danger to drinking water if even extremely small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Toxic for aquatic organisms
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information




- | | |
|---|-------------------------|
| · UN-Number | |
| · DOT, IMDG, IATA | UN1263 |
| · UN proper shipping name | |
| · DOT | Paint |
| · IMDG | PAINT, MARINE POLLUTANT |
| · IATA | PAINT |
| · Transport hazard class(es) | |
| · DOT | |
|  | |
| · Class | 3 Flammable liquids |

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· Label	3
· IMDG	
 	
· Class	3 Flammable liquids
· Label	3
· IATA	
	
· Class	3 Flammable liquids
· Label	3
· Packing group	
· DOT, IMDG, IATA	II
· Environmental hazards:	
· Marine pollutant:	Symbol (fish and tree)
· Special precautions for user	Warning: Flammable liquids
· EMS Number:	F-E, S-E
· Stowage Category	A
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· DOT	
· Quantity limitations	On passenger aircraft/rail: 60 L On cargo aircraft only: 220 L
· UN "Model Regulation":	UN 1263 PAINT, 3, II, ENVIRONMENTALLY HAZARDOUS

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
· **Sara**

· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**

7727-43-7	barium sulphate, natural
7779-90-0	trizinc bis(orthophosphate)
7429-90-5	aluminium powder (pyrophoric)
1314-13-2	zinc oxide

· **TSCA (Toxic Substances Control Act):**

All ingredients are listed.

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· **Proposition 65**· **Chemicals known to cause cancer:**

14808-60-7	Quartz (SiO ₂)
1333-86-4	Carbon black

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenic categories**· **EPA (Environmental Protection Agency)**

7727-43-7	barium sulphate, natural	D, CBD(inh), NL(oral)
7779-90-0	trizinc bis(orthophosphate)	D, I, II
1314-13-2	zinc oxide	D, I, II

· **TLV (Threshold Limit Value established by ACGIH)**

14807-96-6	Talc (Mg ₃ H ₂ (SiO ₃) ₄)	A4
7429-90-5	aluminium powder (pyrophoric)	A4
14808-60-7	Quartz (SiO ₂)	A2
1333-86-4	Carbon black	A4

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

14808-60-7	Quartz (SiO ₂)
1333-86-4	Carbon black

· **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**

GHS02 GHS07 GHS08

· **Signal word** Danger· **Hazard-determining components of labeling:**

tetraethyl-N,N'-(methylenedicyclohexane-4, 1-diyl)bis-DL-aspartate

Stoddard solvent

Solvent naphtha (petroleum), light arom.

Quartz (SiO₂)

· **Hazard statements**

Flammable liquid and vapor.

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

May cause an allergic skin reaction.

May cause genetic defects.

May cause cancer.

Causes damage to the central nervous system through prolonged or repeated exposure.

· **Precautionary statements**

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

Keep out of reach of children.

Read label before use.

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Obtain special instructions before use.
 Do not handle until all safety precautions have been read and understood.
 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
 Do not allow contact with water.
 Handle under inert gas. Protect from moisture.
 Keep container tightly closed.
 Ground/bond container and receiving equipment.
 Use explosion-proof electrical/ventilating/lighting/equipment.
 Use only non-sparking tools.
 Take precautionary measures against static discharge.
 Do not breathe dust/fume/gas/mist/vapors/spray.
 Wash thoroughly after handling.
 Do not eat, drink or smoke when using this product.
 Contaminated work clothing must not be allowed out of the workplace.
 Wear protective gloves/protective clothing/eye protection/face protection.
 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
 IF exposed or concerned: Get medical advice/attention.
 Specific treatment (see on this label).
 Get medical advice/attention if you feel unwell.
 If skin irritation or rash occurs: Get medical advice/attention.
 Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages.
 Wash contaminated clothing before reuse.
 In case of fire: Use for extinction: CO2, sand, extinguishing powder.
 Store in a dry place. Store in a closed container.
 Store in a well-ventilated place. Keep cool.
 Store locked up.
 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **National regulations:**

- **Information about limitation of use:**

Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation. Exceptions can be made by the authorities in certain cases.

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:** Environment protection department.

- **Contact:** Mr. Williams

- **Date of preparation / last revision** 09/18/2025 / -

- **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

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TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Flam. Liq. 3: Flammable liquids – Category 3

Water-react. 1: Substances and mixtures which in contact with water emit flammable gases – Category 1

Skin Sens. 1: Skin sensitisation – Category 1

Muta. 1B: Germ cell mutagenicity – Category 1B

Carc. 1A: Carcinogenicity – Category 1A

STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

US