

**HARDENER 2085 US**

Version 2.0      Revision Date: 05/10/2023      SDS Number: 400001019397      Date of last issue: 08/01/2019  
 Date of first issue: 02/12/2016

Print Date 10/24/2023

**SECTION 1. IDENTIFICATION**

Product name : HARDENER 2085 US

**Manufacturer or supplier's details**

Company name of supplier : Huntsman Advanced Materials Americas LLC  
 Address : P.O. Box 4980  
 The Woodlands,  
 TX 77387  
 United States of America (USA)

Telephone : Non-Emergency: (800) 257-5547

E-mail address : Global\_Product\_EHS\_AdMat@huntsman.com

Emergency telephone number : Chemtrec: (800) 424-9300 or (703) 527-3887

**Recommended use of the chemical and restrictions on use**

Recommended use : Adhesives and/or sealants

**SECTION 2. HAZARDS IDENTIFICATION****GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)**

Flammable liquids : Category 2  
 Skin irritation : Category 2  
 Eye irritation : Category 2B  
 Skin sensitisation : Category 1  
 Specific target organ toxicity - single exposure : Category 3 (Respiratory system)  
 Short-term (acute) aquatic hazard : Category 3  
 Long-term (chronic) aquatic hazard : Category 3

 **Chemical Concepts**<sup>TM</sup>  
 Our expertise is your solution.  
 chemical-concepts.com  
**800.220.1966**  
 410 Pike Road • Huntingdon Valley, PA 19006

**GHS label elements**

Hazard pictograms :  

Signal word : Danger

Hazard statements : H225 Highly flammable liquid and vapour.

**HARDENER 2085 US**

Version 2.0      Revision Date: 05/10/2023      SDS Number: 400001019397      Date of last issue: 08/01/2019  
Date of first issue: 02/12/2016

Print Date 10/24/2023

H315 + H320 Causes skin and eye irritation.  
H317 May cause an allergic skin reaction.  
H335 May cause respiratory irritation.  
H412 Harmful to aquatic life with long lasting effects.

## Precautionary statements

: **Prevention:**

P210 Keep away from heat/ sparks/ open flames/ hot surfaces.  
No smoking.  
P233 Keep container tightly closed.  
P240 Ground/bond container and receiving equipment.  
P241 Use explosion-proof electrical/ ventilating/ lighting equipment.  
P242 Use only non-sparking tools.  
P243 Take precautionary measures against static discharge.  
P261 Avoid breathing mist or vapours.  
P264 Wash skin thoroughly after handling.  
P271 Use only outdoors or in a well-ventilated area.  
P272 Contaminated work clothing must not be allowed out of the workplace.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/ eye protection/ face protection.

**Response:**

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.  
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.  
P337 + P313 If eye irritation persists: Get medical advice/ attention.  
P362 Take off contaminated clothing and wash before reuse.  
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

**Storage:**

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.  
P403 + P235 Store in a well-ventilated place. Keep cool.  
P405 Store locked up.

**Disposal:**

P501 Dispose of contents/ container to an approved waste disposal plant.

**Other hazards**

None known.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substance / Mixture : Mixture

**Hazardous components**

**HARDENER 2085 US**

Version 2.0      Revision Date: 05/10/2023      SDS Number: 400001019397      Date of last issue: 08/01/2019  
 Date of first issue: 02/12/2016

Print Date 10/24/2023

Chemical name	CAS-No.	Concentration (% w/w)
methyl methacrylate	80-62-6	70 - 90
2-Propenoic acid, 2-methyl-, methyl ester, polymer with 1,3-butadiene and ethenylbenzene	25053-09-2	5 - 10
3,5-diethyl-1,2-dihydro-1-phenyl-2-propylpyridine	34562-31-7	1 - 5
(1-methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] diacrylate	42978-66-5	0.1 - 1
1-(3,4-DIHYDRONAPHTHALEN-1-YL)PYRROLIDINE	7007-34-3	0.1 - 1
2,6-di-tert-butyl-p-cresol	128-37-0	0.1 - 1

The specific chemical identity and/or exact percentage (concentration) of composition may be withheld as a trade secret.

**SECTION 4. FIRST AID MEASURES**

- General advice : Move out of dangerous area.  
 Show this safety data sheet to the doctor in attendance.  
 Treat symptomatically.  
 Get medical attention if symptoms occur.
- If inhaled : Consult a physician after significant exposure.  
 If inhaled, remove to fresh air.  
 Get medical attention if symptoms occur.
- In case of skin contact : If skin irritation persists, call a physician.  
 If on skin, rinse well with water.  
 If on clothes, remove clothes.
- In case of eye contact : Immediately flush eye(s) with plenty of water.  
 Remove contact lenses.  
 Keep eye wide open while rinsing.  
 If eye irritation persists, consult a specialist.
- If swallowed : Keep respiratory tract clear.  
 Never give anything by mouth to an unconscious person.  
 If symptoms persist, call a physician.
- Most important symptoms and effects, both acute and delayed : None known.
- Protection of first-aiders : First Aid responders should pay attention to self-protection and use the recommended protective clothing  
 If potential for exposure exists refer to Section 8 for specific

**HARDENER 2085 US**

Version 2.0      Revision Date: 05/10/2023      SDS Number: 400001019397      Date of last issue: 08/01/2019  
Date of first issue: 02/12/2016

Print Date 10/24/2023

personal protective equipment.  
Avoid inhalation, ingestion and contact with skin and eyes.  
No action shall be taken involving any personal risk or without suitable training.  
It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

Notes to physician : Treat symptomatically.

**SECTION 5. FIREFIGHTING MEASURES**

- Suitable extinguishing media : Water spray  
Alcohol-resistant foam  
Carbon dioxide (CO<sub>2</sub>)  
Dry chemical
- Unsuitable extinguishing media : Exercise caution when using a high volume water jet as it may scatter and spread fire
- Specific hazards during firefighting : Do not allow run-off from fire fighting to enter drains or water courses.
- Hazardous combustion products : No hazardous combustion products are known  
  
Carbon oxides
- Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.  
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.  
For safety reasons in case of fire, cans should be stored separately in closed containments.  
Use a water spray to cool fully closed containers.
- Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

- Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.  
Ensure adequate ventilation.  
Remove all sources of ignition.  
Evacuate personnel to safe areas.  
Refer to protective measures listed in sections 7 and 8.  
Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
- Environmental precautions : Prevent product from entering drains.

**HARDENER 2085 US**

Version	Revision Date:	SDS Number:	Date of last issue: 08/01/2019
2.0	05/10/2023	400001019397	Date of first issue: 02/12/2016

Print Date 10/24/2023

Prevent further leakage or spillage if safe to do so.  
If the product contaminates rivers and lakes or drains inform respective authorities.

Methods and materials for containment and cleaning up : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

**SECTION 7. HANDLING AND STORAGE**

Advice on protection against fire and explosion : Do not spray on a naked flame or any incandescent material.  
Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours).  
Use only explosion-proof equipment.  
Keep away from open flames, hot surfaces and sources of ignition.

Advice on safe handling : Avoid formation of aerosol.  
Do not breathe vapours or spray mist.  
Avoid exposure - obtain special instructions before use.  
Avoid contact with skin and eyes.  
For personal protection see section 8.  
Smoking, eating and drinking should be prohibited in the application area.  
Take precautionary measures against static discharges.  
Provide sufficient air exchange and/or exhaust in work rooms.  
Open drum carefully as content may be under pressure.  
Dispose of rinse water in accordance with local and national regulations.  
Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

Repeated or prolonged skin contact may cause skin irritation and/or dermatitis and sensitisation of susceptible persons.  
Persons suffering from asthma, eczema or skin problems should avoid contact, including dermal contact, with this product.

Avoid formation of aerosol.  
Do not breathe vapours/dust.  
Avoid exposure - obtain special instructions before use.  
Avoid contact with skin and eyes.  
For personal protection see section 8.  
Smoking, eating and drinking should be prohibited in the application area.  
Take precautionary measures against static discharges.  
Provide sufficient air exchange and/or exhaust in work rooms.  
Open drum carefully as content may be under pressure.  
Dispose of rinse water in accordance with local and national regulations.

**HARDENER 2085 US**

Version 2.0      Revision Date: 05/10/2023      SDS Number: 400001019397      Date of last issue: 08/01/2019  
 Date of first issue: 02/12/2016

Print Date 10/24/2023

- Conditions for safe storage : No smoking.  
 Keep container tightly closed in a dry and well-ventilated place.  
 Containers which are opened must be carefully resealed and kept upright to prevent leakage.  
 Observe label precautions.  
 Keep in properly labelled containers.
- Materials to avoid : For incompatible materials please refer to Section 10 of this SDS.
- Recommended storage temperature : 36 - 46 °F / 2 - 8 °C
- Further information on storage stability : Stable under normal conditions.

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Components with workplace control parameters**

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
methyl methacrylate	80-62-6	TWA	50 ppm	ACGIH
		STEL	100 ppm	ACGIH
		TWA	100 ppm 410 mg/m <sup>3</sup>	OSHA Z-1
		TWA	100 ppm 410 mg/m <sup>3</sup>	NIOSH REL
		TWA	100 ppm 410 mg/m <sup>3</sup>	OSHA P0
2,6-di-tert-butyl-p-cresol	128-37-0	TWA (Inhalable fraction and vapor)	2 mg/m <sup>3</sup>	ACGIH
		TWA	10 mg/m <sup>3</sup>	NIOSH REL
		TWA	10 mg/m <sup>3</sup>	OSHA P0

**Personal protective equipment**

- Respiratory protection : Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines  
 Recommended Filter type:  
 Combined particulates and organic vapour type
- Filter type : Filter type A-P
- Respiratory protection : In the case of vapour formation use a respirator with an approved filter.
- Hand protection  
 Material : butyl-rubber

**HARDENER 2085 US**

Version 2.0      Revision Date: 05/10/2023      SDS Number: 400001019397      Date of last issue: 08/01/2019  
Date of first issue: 02/12/2016

Print Date 10/24/2023

Material : Ethyl Vinyl Alcohol Laminate (EVAL)  
Break through time : > 8 h

Material : Nitrile rubber  
Break through time : 10 - 480 min

Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.  
Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).  
Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.  
The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Eye wash bottle with pure water  
Tightly fitting safety goggles  
Wear face-shield and protective suit for abnormal processing problems.

Skin and body protection : Impervious clothing  
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures : When using do not eat or drink.  
When using do not smoke.  
Wash hands before breaks and at the end of workday.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance : liquid  
Colour : yellow  
Odour : acrylic-like  
Odour Threshold : No data is available on the product itself.  
pH : No data is available on the product itself.  
Melting point/freezing point : No data is available on the product itself.  
Boiling point : 212 °F / 100 °C  
Flash point : 48.0 °F / 8.9 °C  
Method: closed cup  
Evaporation rate : No data is available on the product itself.

**HARDENER 2085 US**

Version 2.0      Revision Date: 05/10/2023      SDS Number: 400001019397      Date of last issue: 08/01/2019  
Date of first issue: 02/12/2016

Print Date 10/24/2023

Flammability (solid, gas)	: No data is available on the product itself.
Flammability (liquids)	: No data is available on the product itself.
Upper explosion limit / Upper flammability limit	: No data is available on the product itself.
Lower explosion limit / Lower flammability limit	: No data is available on the product itself.
Vapour pressure	: No data is available on the product itself.
Relative vapour density	: No data is available on the product itself.
Relative density	: No data is available on the product itself.
Density	: 0.99 g/cm3
Solubility(ies)	
Water solubility	: No data is available on the product itself.
Solubility in other solvents	: No data is available on the product itself.
Partition coefficient: n-octanol/water	: No data is available on the product itself.
Auto-ignition temperature	: No data is available on the product itself.
Decomposition temperature	: No data is available on the product itself.
Self-Accelerating decomposition temperature (SADT)	: No data is available on the product itself.
Viscosity	: No data is available on the product itself.
Explosive properties	: No data is available on the product itself.
Oxidizing properties	: No data is available on the product itself.
Particle size	: No data is available on the product itself.

**SECTION 10. STABILITY AND REACTIVITY**

Reactivity	: No dangerous reaction known under conditions of normal use.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: Vapours may form explosive mixture with air.
Conditions to avoid	: Heat, flames and sparks.
Incompatible materials	: None known.



**HARDENER 2085 US**

Version	Revision Date:	SDS Number:	Date of last issue: 08/01/2019
2.0	05/10/2023	400001019397	Date of first issue: 02/12/2016

Print Date 10/24/2023

Hazardous decomposition products	:	No decomposition if stored and applied as directed.
Hazardous decomposition products	:	carbon dioxide carbon monoxide

**SECTION 11. TOXICOLOGICAL INFORMATION****Acute toxicity****Product:**

Acute oral toxicity	:	Acute toxicity estimate: > 5,000 mg/kg Method: Calculation method
Acute inhalation toxicity	:	Acute toxicity estimate: 39.58 mg/l Exposure time: 4 h Test atmosphere: vapour Method: Calculation method

**Components:****methyl methacrylate:**

Acute oral toxicity	:	LD50 (Rat): 7,900 - 9,400 mg/kg
Acute inhalation toxicity	:	LC50 (Rat, male and female): 29.8 mg/l Exposure time: 4 h Test atmosphere: vapour Method: Directive 67/548/EEC, Annex V, B.2.
Acute dermal toxicity	:	LD50 (Rabbit, male): > 5,000 mg/kg Method: OECD Test Guideline 402

**2-Propenoic acid, 2-methyl-, methyl ester, polymer with 1,3-butadiene and ethenylbenzene:**

Acute oral toxicity	:	LD50 (Rat): > 5,000 mg/kg
Acute dermal toxicity	:	LD50 (Rabbit): > 5,000 mg/kg

**3,5-diethyl-1,2-dihydro-1-phenyl-2-propylpyridine:**

Acute oral toxicity	:	LD50 (Rat, male and female): > 500 mg/kg GLP: yes Assessment: The component/mixture is moderately toxic after single ingestion.
Acute dermal toxicity	:	LD50 (Rabbit, male and female): > 1,000 mg/kg GLP: yes Assessment: The substance or mixture has no acute dermal toxicity

**(1-methyl-1,2-ethanediy)bis[oxy(methyl-2,1-ethanediy)] diacrylate:**

Acute oral toxicity	:	LD50 (Rat, female): > 2,000 mg/kg Method: OECD Test Guideline 423 GLP: yes Assessment: The substance or mixture has no acute oral toxicity
---------------------	---	---

**HARDENER 2085 US**

Version 2.0      Revision Date: 05/10/2023      SDS Number: 400001019397      Date of last issue: 08/01/2019  
Date of first issue: 02/12/2016

Print Date 10/24/2023

Acute dermal toxicity : LD50 (Rabbit, male and female): > 2,000 mg/kg  
Method: OECD Test Guideline 402  
Assessment: The substance or mixture has no acute dermal toxicity

**1-(3,4-DIHYDRONAPHTHALEN-1-YL)PYRROLIDINE:**

Acute oral toxicity : LD50 (Rat): 531 mg/kg  
Method: Calculation method  
GLP: no  
Assessment: The component/mixture is moderately toxic after single ingestion.  
Remarks: The value is given based on a SAR/AAR approach using OECD Toolbox, DEREK, VEGA QSAR models (CAESAR models), etc.

**2,6-di-tert-butyl-p-cresol:**

Acute oral toxicity : LD50 (Rat, male and female): > 6,000 mg/kg  
Method: OECD Test Guideline 401  
Assessment: The substance or mixture has no acute oral toxicity

Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg  
Method: OECD Test Guideline 402  
Assessment: The substance or mixture has no acute dermal toxicity

**Skin corrosion/irritation****Product:**

Remarks : May cause skin irritation and/or dermatitis.

**Components:****methyl methacrylate:**

Species : Rabbit  
Method : OPPTS 870.2500  
Result : Skin irritation

**2-Propenoic acid, 2-methyl-, methyl ester, polymer with 1,3-butadiene and ethenylbenzene:**

Species : Rabbit  
Assessment : Mild skin irritant  
Result : slight irritation

**3,5-diethyl-1,2-dihydro-1-phenyl-2-propylpyridine:**

Species : Rabbit  
Exposure time : 4 h  
Method : Other guidelines  
Result : Skin irritation  
GLP : yes

**(1-methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] diacrylate:**

**HARDENER 2085 US**

Version 2.0      Revision Date: 05/10/2023      SDS Number: 400001019397      Date of last issue: 08/01/2019  
Date of first issue: 02/12/2016

Print Date 10/24/2023

Species : Rabbit  
Method : OECD Test Guideline 404  
Result : Skin irritation  
GLP : yes

**1-(3,4-DIHYDRONAPHTHALEN-1-YL)PYRROLIDINE:**

Result : Skin irritation

**2,6-di-tert-butyl-p-cresol:**

Species : Rabbit  
Assessment : No skin irritation  
Method : OECD Test Guideline 404  
Result : No skin irritation

**Serious eye damage/eye irritation****Product:**

Remarks : Vapours may cause irritation to the eyes, respiratory system and the skin.

**Components:****2-Propenoic acid, 2-methyl-, methyl ester, polymer with 1,3-butadiene and ethenylbenzene:**

Species : Rabbit  
Result : slight irritation  
Assessment : Mild eye irritant

**3,5-diethyl-1,2-dihydro-1-phenyl-2-propylpyridine:**

Species : Rabbit  
Result : Mild eye irritation  
Method : OECD Test Guideline 405  
GLP : yes

**(1-methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] diacrylate:**

Species : Rabbit  
Result : Eye irritation  
Method : OECD Test Guideline 405  
GLP : yes

**1-(3,4-DIHYDRONAPHTHALEN-1-YL)PYRROLIDINE:**

Result : Eye irritation

**2,6-di-tert-butyl-p-cresol:**

Species : Rabbit  
Result : No eye irritation  
Assessment : No eye irritation  
Method : OECD Test Guideline 405

**HARDENER 2085 US**

Version 2.0      Revision Date: 05/10/2023      SDS Number: 400001019397      Date of last issue: 08/01/2019  
Date of first issue: 02/12/2016

Print Date 10/24/2023

**Respiratory or skin sensitisation****Product:**

Remarks : Causes sensitisation.

**Components:****methyl methacrylate:**

Exposure routes : Skin  
Species : Mouse  
Assessment : May cause sensitisation by skin contact.  
Method : OECD Test Guideline 429  
Result : May cause sensitisation by skin contact.

**3,5-diethyl-1,2-dihydro-1-phenyl-2-propylpyridine:**

Test Type : Local lymph node assay (LLNA)  
Species : Mouse  
Assessment : Did not cause sensitisation on laboratory animals.  
Method : OECD Test Guideline 429  
Result : Did not cause sensitisation on laboratory animals.  
GLP : yes

**(1-methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] diacrylate:**

Species : Mouse  
Method : OECD Test Guideline 429  
Result : May cause sensitisation by skin contact.

**2,6-di-tert-butyl-p-cresol:**

Exposure routes : Skin  
Species : Humans  
Result : Does not cause skin sensitisation.

**Germ cell mutagenicity****Components:****methyl methacrylate:**

Genotoxicity in vitro : Test Type: Microbial mutagenesis assay (Ames test)  
Test system: Salmonella typhimurium  
Method: OECD Test Guideline 471  
Result: negative

**3,5-diethyl-1,2-dihydro-1-phenyl-2-propylpyridine:**

Genotoxicity in vitro : Test Type: reverse mutation assay  
Test system: Salmonella typhimurium and E. coli  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 471  
Result: negative  
GLP: yes

**(1-methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] diacrylate:**

Genotoxicity in vitro : Test system: Chinese hamster ovary cells

**HARDENER 2085 US**

Version	Revision Date:	SDS Number:	Date of last issue: 08/01/2019
2.0	05/10/2023	400001019397	Date of first issue: 02/12/2016

Print Date 10/24/2023

Metabolic activation: with and without metabolic activation  
 Method: OECD Test Guideline 476  
 Result: negative  
 GLP: yes

Genotoxicity in vivo : Test Type: Micronucleus test  
 Species: Mouse (male)  
 Application Route: Oral  
 Method: OECD Test Guideline 474  
 Result: negative  
 GLP: yes

**2,6-di-tert-butyl-p-cresol:**

Genotoxicity in vitro : Test Type: reverse mutation assay  
 Metabolic activation: with and without metabolic activation  
 Result: negative

Test Type: Chromosome aberration test in vitro  
 Metabolic activation: with and without metabolic activation  
 Result: negative

Genotoxicity in vivo : Application Route: Intraperitoneal injection  
 Dose: 75 mg/kg  
 Result: negative

Application Route: Oral  
 Exposure time: 9 Months  
 Dose: ca 750 mg/kg  
 Result: negative

**Carcinogenicity****Components:****methyl methacrylate:**

Species : Rat, male and female  
 Application Route : Oral  
 Exposure time : 2 Years  
 Dose : 6, 60, 2000 ppm  
 Frequency of Treatment : once daily  
 NOAEL : 90.3 mg/kg bw/day  
 Result : negative

**2,6-di-tert-butyl-p-cresol:**

Species : Rat, male and female  
 Application Route : Oral  
 Result : negative

**IARC** No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**OSHA** No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

**NTP** No component of this product present at levels greater than or equal to 0.1% is

**HARDENER 2085 US**

Version	Revision Date:	SDS Number:	Date of last issue: 08/01/2019
2.0	05/10/2023	400001019397	Date of first issue: 02/12/2016

Print Date 10/24/2023

identified as a known or anticipated carcinogen by NTP.

**Reproductive toxicity****Components:****methyl methacrylate:**

Effects on foetal development : Species: Rat  
 Application Route: Inhalation  
 Dose: 99, 304, 1178 ppm  
 Teratogenicity: NOAEC F1: 8,300 mg/m<sup>3</sup>  
 Embryo-foetal toxicity: NOAEC F1: 8,300 mg/m<sup>3</sup>  
 Method: OECD Test Guideline 414  
 Result: No teratogenic effects

**2,6-di-tert-butyl-p-cresol:**

Effects on fertility : Test Type: Two-generation study  
 Species: Rat, male and female  
 Application Route: Oral  
 Dose: 25/100/500 mg/kg bw/day  
 General Toxicity - Parent: NOAEL: 100 mg/kg body weight  
 General Toxicity F1: NOAEL: 25 mg/kg body weight  
 Result: negative

Effects on foetal development : Test Type: Pre-natal  
 Species: Mouse, female  
 Application Route: Oral  
 Duration of Single Treatment: 7 d  
 General Toxicity Maternal: NOAEL: 240 mg/kg body weight  
 Developmental Toxicity: NOAEL: 800 mg/kg body weight  
 Target Organs: spleen, Kidney

**STOT - single exposure****Components:****methyl methacrylate:**

Exposure routes : Inhalation  
 Target Organs : Respiratory Tract  
 Assessment : May cause respiratory irritation.

**(1-methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] diacrylate:**

Exposure routes : Inhalation  
 Target Organs : Respiratory system  
 Assessment : May cause respiratory irritation.

**1-(3,4-DIHYDRONAPHTHALEN-1-YL)PYRROLIDINE:**

Assessment : The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

**STOT - repeated exposure**

No data available

**HARDENER 2085 US**

Version 2.0      Revision Date: 05/10/2023      SDS Number: 400001019397      Date of last issue: 08/01/2019  
Date of first issue: 02/12/2016

Print Date 10/24/2023

**Repeated dose toxicity****Components:****methyl methacrylate:**

Species : Rat, male and female  
NOAEL : 124.1 mg/kg  
Application Route : oral (drinking water)  
Exposure time : 2 years  
Number of exposures : daily  
Dose : 6, 60, 2000 ppm

**(1-methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] diacrylate:**

Species : Rat, male and female  
NOAEL : 250 mg/kg  
Application Route : Oral  
Dose : 75, 250, and 750 mg/kg  
Method : OECD Test Guideline 422  
GLP : yes

**2,6-di-tert-butyl-p-cresol:**

Species : Pig, male and female  
NOAEL : >= 61 mg/kg  
Application Route : oral (feed)  
Exposure time : daily  
Method : Chronic toxicity

**Aspiration toxicity**

No data available

**Experience with human exposure**

No data available

**Toxicology, Metabolism, Distribution**

No data available

**Neurological effects**

No data available

**Further information****Product:**

Remarks : Solvents may degrease the skin.

**SECTION 12. ECOLOGICAL INFORMATION****Ecotoxicity****Components:****methyl methacrylate:**

Toxicity to fish : LC50 : 191 mg/l  
Exposure time: 96 h

LC50 (Oncorhynchus mykiss (rainbow trout)): &gt; 79 mg/l

**HARDENER 2085 US**

Version	Revision Date:	SDS Number:	Date of last issue: 08/01/2019
2.0	05/10/2023	400001019397	Date of first issue: 02/12/2016

Print Date 10/24/2023

Exposure time: 96 h  
 Test Type: flow-through test  
 Method: Fish Early-life Stage Toxicity Test

Toxicity to daphnia and other aquatic invertebrates : EC50: 69 mg/l  
 Exposure time: 48 h

Toxicity to algae/aquatic plants : EC50: > 110 mg/l  
 Exposure time: 72 h

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 37 mg/l  
 Exposure time: 21 d  
 Test Type: flow-through test  
 Method: OECD Test Guideline 211

**3,5-diethyl-1,2-dihydro-1-phenyl-2-propylpyridine:**

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): 22 mg/l  
 Exposure time: 48 h  
 Test Type: static test  
 Method: OECD Test Guideline 202  
 GLP: yes

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): 40 mg/l  
 Exposure time: 72 h  
 Test Type: static test  
 Analytical monitoring: yes  
 Method: OECD Test Guideline 201  
 GLP: yes

NOEC (Pseudokirchneriella subcapitata (green algae)): 16 mg/l  
 Exposure time: 72 h  
 Test Type: static test  
 Analytical monitoring: yes  
 Method: OECD Test Guideline 201  
 GLP: yes

**Ecotoxicology Assessment**

Chronic aquatic toxicity : May cause long lasting harmful effects to aquatic life.

**(1-methyl-1,2-ethanediy)bis[oxy(methyl-2,1-ethanediy)] diacrylate:**

Toxicity to fish : LC50 (Leuciscus idus (Golden orfe)): > 4.6 - 10 mg/l  
 Exposure time: 96 h  
 Test Type: static test  
 Method: DIN 38412

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 89 mg/l  
 Exposure time: 48 h  
 Test Type: static test

Toxicity to algae/aquatic plants : EC50 (Desmodesmus subspicatus (green algae)): 65.9 mg/l  
 Exposure time: 72 h  
 Test Type: static test  
 Method: DIN 38412



**HARDENER 2085 US**

Version 2.0      Revision Date: 05/10/2023      SDS Number: 400001019397      Date of last issue: 08/01/2019  
Date of first issue: 02/12/2016

Print Date 10/24/2023

**1-(3,4-DIHYDRONAPHTHALEN-1-YL)PYRROLIDINE:**

Toxicity to fish : LC50 (Fish): 2.246 mg/l  
End point: mortality  
Exposure time: 96 h  
Test substance: Fresh water  
Method: QSAR  
GLP: no  
Remarks: The value is given based on a SAR/AAR approach using OECD Toolbox, DEREK, VEGA QSAR models (CAESAR models), etc.

Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia (water flea)): 0.33 mg/l  
End point: Immobilization  
Exposure time: 58 h  
Test substance: Fresh water  
Method: QSAR  
GLP: no  
Remarks: The value is given based on a SAR/AAR approach using OECD Toolbox, DEREK, VEGA QSAR models (CAESAR models), etc.

Toxicity to algae/aquatic plants : EC50 (green algae): 0.179 mg/l  
Exposure time: 96 h  
Test substance: Fresh water  
Method: QSAR  
GLP: no  
Remarks: The value is given based on a SAR/AAR approach using OECD Toolbox, DEREK, VEGA QSAR models (CAESAR models), etc.

**Ecotoxicology Assessment**

Acute aquatic toxicity : Very toxic to aquatic life.

Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects.

**2,6-di-tert-butyl-p-cresol:**

Toxicity to fish : LC50 (Fish): 0.199 mg/l  
Exposure time: 96 h  
Test substance: Fresh water  
Method: QSAR

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.48 mg/l  
End point: Immobilization  
Exposure time: 48 h  
Test Type: static test  
Test substance: Fresh water  
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): > 0.24 mg/l  
Exposure time: 72 h  
Test Type: static test  
Test substance: Fresh water

**HARDENER 2085 US**

Version	Revision Date:	SDS Number:	Date of last issue: 08/01/2019
2.0	05/10/2023	400001019397	Date of first issue: 02/12/2016

Print Date 10/24/2023

Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (green algae)): 0.24 mg/l

Exposure time: 72 h

Test Type: static test

Test substance: Fresh water

Method: OECD Test Guideline 201

M-Factor (Acute aquatic toxicity) : 1

Toxicity to fish (Chronic toxicity) : NOEC (Oryzias latipes (Orange-red killifish)): 0.053 mg/l  
 Exposure time: 30 d  
 Test substance: Fresh water  
 Method: OECD Test Guideline 210

NOEC (Fish):  $\geq$  23.8 mg/l  
 Exposure time: 70 d  
 Test substance: Fresh water

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : EC50 (Daphnia magna (Water flea)): 0.096 mg/l  
 Exposure time: 21 d  
 Test substance: Fresh water  
 Method: OECD Test Guideline 211

NOEC (Daphnia magna (Water flea)): 0.069 mg/l  
 Exposure time: 21 d  
 Test substance: Fresh water  
 Method: OECD Test Guideline 211

M-Factor (Chronic aquatic toxicity) : 1

Toxicity to microorganisms : ErC50 (activated sludge): 1.7 mg/l  
 Exposure time: 24 h  
 Test Type: static test

**Persistence and degradability****Components:****methyl methacrylate:**

Biodegradability : Result: Readily biodegradable.  
 Biodegradation: > 60 %  
 Exposure time: 28 d

**3,5-diethyl-1,2-dihydro-1-phenyl-2-propylpyridine:**

Biodegradability : Result: Not readily biodegradable.  
 Biodegradation: 0.132 %  
 Exposure time: 28 d  
 Method: QSAR  
 GLP: no

**(1-methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] diacrylate:**

**HARDENER 2085 US**

Version 2.0      Revision Date: 05/10/2023      SDS Number: 400001019397      Date of last issue: 08/01/2019  
Date of first issue: 02/12/2016

Print Date 10/24/2023

Biodegradability : aerobic  
Inoculum: activated sludge  
Concentration: 20 mg/l  
Result: Not biodegradable  
Biodegradation: 48 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301B  
GLP: yes

**2,6-di-tert-butyl-p-cresol:**

Biodegradability : Result: Not biodegradable

**Bioaccumulative potential****Components:****methyl methacrylate:**

Bioaccumulation : Bioconcentration factor (BCF): 3

Partition coefficient: n-octanol/water : log Pow: 1.38

**3,5-diethyl-1,2-dihydro-1-phenyl-2-propylpyridine:**

Partition coefficient: n-octanol/water : log Pow: > 6.5 (77 °F / 25 °C)  
pH: 5.7  
Method: OECD Test Guideline 117  
GLP: yes

**(1-methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] diacrylate:**

Partition coefficient: n-octanol/water : log Pow: 2 (77 °F / 25 °C)

**1-(3,4-DIHYDRONAPHTHALEN-1-YL)PYRROLIDINE:**

Partition coefficient: n-octanol/water : log Pow: 3.87  
Method: QSAR  
GLP: no

**2,6-di-tert-butyl-p-cresol:**

Bioaccumulation : Species: Cyprinus carpio (Carp)  
Bioconcentration factor (BCF): 330 - 1,800  
Exposure time: 28 d  
Method: flow-through test

Partition coefficient: n-octanol/water : log Pow: 5.2

**Mobility in soil****Components:****2,6-di-tert-butyl-p-cresol:**

Distribution among environmental compartments : Koc: 8183

**HARDENER 2085 US**

Version 2.0      Revision Date: 05/10/2023      SDS Number: 400001019397      Date of last issue: 08/01/2019  
Date of first issue: 02/12/2016

Print Date 10/24/2023

**Other adverse effects****Product:**

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82  
Protection of Stratospheric Ozone - CAA Section 602 Class I  
Substances  
Remarks: This product neither contains, nor was  
manufactured with a Class I or Class II ODS as defined by the  
U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A +  
B).

Additional ecological information : An environmental hazard cannot be excluded in the event of  
unprofessional handling or disposal.  
Harmful to aquatic life.

An environmental hazard cannot be excluded in the event of  
unprofessional handling or disposal.  
Harmful to aquatic life with long lasting effects.

**SECTION 13. DISPOSAL CONSIDERATIONS****Disposal methods**

Waste from residues : Dispose of contents and container in accordance with all local,  
regional, national and international regulations.  
Do not dispose of waste into sewer.  
Do not contaminate ponds, waterways or ditches with  
chemical or used container.

Contaminated packaging : Empty remaining contents.  
Dispose of as unused product.  
Do not re-use empty containers.  
Do not burn, or use a cutting torch on, the empty drum.

**SECTION 14. TRANSPORT INFORMATION****International Regulations****IATA-DGR**

UN/ID No. : UN 1133  
Proper shipping name : Adhesives  
Class : 3  
Packing group : II  
Labels : Flammable Liquids  
Packing instruction (cargo  
aircraft) : 364  
Packing instruction  
(passenger aircraft) : 353

**IMDG-Code**

UN number : UN 1133  
Proper shipping name : ADHESIVES  
Class : 3

**HARDENER 2085 US**

Version            Revision Date:            SDS Number:            Date of last issue: 08/01/2019  
2.0                    05/10/2023              400001019397        Date of first issue: 02/12/2016

Print Date 10/24/2023

Packing group            : II  
Labels                    : 3  
EmS Code                 : F-E, S-D  
Marine pollutant         : no

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable for product as supplied.

**National Regulations****49 CFR**

UN/ID/NA number        : UN 1133  
Proper shipping name    : Adhesives

Class                     : 3  
Packing group            : II  
Labels                    : FLAMMABLE LIQUID  
ERG Code                 : 128  
Marine pollutant         : no

**Special precautions for user**

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

**SECTION 15. REGULATORY INFORMATION****CERCLA Reportable Quantity**

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
methyl methacrylate	80-62-6	1000	1328

**SARA 311/312 Hazards**            : Flammable (gases, aerosols, liquids, or solids)  
Skin corrosion or irritation  
Serious eye damage or eye irritation  
Respiratory or skin sensitisation  
Specific target organ toxicity (single or repeated exposure)

**SARA 313**                                : The following components are subject to reporting levels established by SARA Title III, Section 313:

methyl methacrylate            80-62-6                                >= 70 - < 90 %

The following chemical(s), >= 0.1%, are listed as HAP under the U.S. Clean Air Act, Section 112 (40 CFR 61):

methyl methacrylate            80-62-6

**California Prop. 65**

WARNING: This product can expose you to chemicals including 4-vinylcyclohexene, 2,2'-iminodiethanol, aniline, buta-1,3-diene, which is/are known to the State of California to cause cancer, and

**HARDENER 2085 US**

Version 2.0      Revision Date: 05/10/2023      SDS Number: 400001019397      Date of last issue: 08/01/2019  
 Date of first issue: 02/12/2016

Print Date 10/24/2023

4-vinylcyclohexene, buta-1,3-diene, which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

**The components of this product are reported in the following inventories:**

DSL : All components of this product are on the Canadian DSL  
 AIIC : Not in compliance with the inventory  
 ENCS : Not in compliance with the inventory  
 KECI : Not in compliance with the inventory  
 PICCS : Not in compliance with the inventory  
 IECSC : Not in compliance with the inventory  
 TCSI : Not in compliance with the inventory  
 TSCA : On the inventory, or in compliance with the inventory

**Inventories**

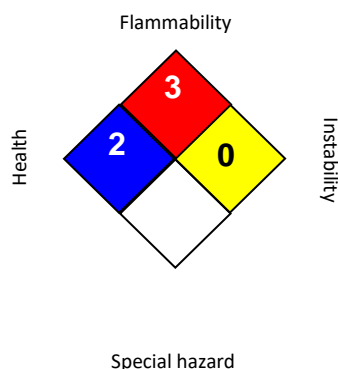
AIIC (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TECl (Thailand), TSCA (USA)

**TSCA - 5(a) Significant New Use Rule List of Chemicals**

No substances are subject to a Significant New Use Rule.

**US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)**

No substances are subject to TSCA 12(b) export notification requirements.

**SECTION 16. OTHER INFORMATION****Further information****NFPA 704:****HMIS® IV:**

<b>HEALTH</b>		<b>2</b>
<b>FLAMMABILITY</b>		<b>3</b>
<b>PHYSICAL HAZARD</b>		<b>0</b>

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "\*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard

**HARDENER 2085 US**

Version	Revision Date:	SDS Number:	Date of last issue: 08/01/2019
2.0	05/10/2023	400001019397	Date of first issue: 02/12/2016

Print Date 10/24/2023

Revision Date	:	05/10/2023
ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
NIOSH REL	:	USA. NIOSH Recommended Exposure Limits
OSHA P0	:	USA. Table Z-1-A Limits for Air Contaminants (1989 vacated values)
OSHA Z-1	:	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
ACGIH / TWA	:	8-hour, time-weighted average
ACGIH / STEL	:	Short-term exposure limit
NIOSH REL / TWA	:	Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
OSHA P0 / TWA	:	8-hour time weighted average
OSHA Z-1 / TWA	:	8-hour time weighted average

The information and recommendations in this publication are to the best of our knowledge, information and belief accurate at the date of publication, NOTHING HEREIN IS TO BE CONSTRUED AS A WARRANTY, EXPRESS OR OTHERWISE.

IN ALL CASES, IT IS THE RESPONSIBILITY OF THE USER TO DETERMINE THE APPLICABILITY OF SUCH INFORMATION AND RECOMMENDATIONS AND THE SUITABILITY OF ANY PRODUCT FOR ITS OWN PARTICULAR PURPOSE.

THE PRODUCT MAY PRESENT HAZARDS AND SHOULD BE USED WITH CAUTION. WHILE CERTAIN HAZARDS ARE DESCRIBED IN THIS PUBLICATION, NO GUARANTEE IS MADE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.

Hazards, toxicity and behaviour of the products may differ when used with other materials and are dependent upon the manufacturing circumstances or other processes. Such hazards, toxicity and behaviour should be determined by the user and made known to handlers, processors and end users.

The trademarks above are the property of Huntsman Corporation or an affiliate thereof.

NO PERSON OR ORGANIZATION EXCEPT A DULY AUTHORIZED HUNTSMAN EMPLOYEE IS AUTHORIZED TO PROVIDE OR MAKE AVAILABLE DATA SHEETS FOR HUNTSMAN PRODUCTS. DATA SHEETS FROM UNAUTHORIZED SOURCES MAY CONTAIN INFORMATION THAT IS NO LONGER CURRENT OR ACCURATE.

