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<b>SAFETY DATA SHEET</b>	Revision Date: 07.06.2018
	Print Date: 06.03.2019
	SDS Number: R0402456
Derakane™ 8090 epoxy vinyl ester resin ™ Trademark, Ashland or its subsidiaries, registered in various countries 170366	Version: 1.1

Conforms to EU Regulation 1907/2006/EC as amended. - SDSGHS\_ES

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

Trade name : Derakane™ 8090  
epoxy vinyl ester resin  
™ Trademark, Ashland or its subsidiaries, registered in  
various countries

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

Recommended use : Reserved for industrial and professional use.

<p><b>1.3 Details of the supplier of the safety data sheet</b> Ashland P.O. Box 8619 NL3009 AP, Rotterdam Netherlands +31 10 497 5000 (in the Netherlands), or contact your local CSR contact person</p> <p>EUSMT@ashland.com</p>	<p><b>1.4 Emergency telephone number</b> 00-800-274-5263-3/001-859-357-3564, or contact your local emergency telephone number at + 34 91 562 04 20</p> <p><b>Product Information</b> +31 10 497 5000 (in the Netherlands), or contact your local CSR contact person</p>
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## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

#### Classification (REGULATION (EC) No 1272/2008)

Flammable liquids, Category 3	H226: Flammable liquid and vapour.
Skin irritation, Category 2	H315: Causes skin irritation.
Eye irritation, Category 2	H319: Causes serious eye irritation.
Reproductive toxicity, Category 2	H361d: Suspected of damaging the unborn child.
Specific target organ toxicity - single exposure, Category 3, Respiratory	H335: May cause respiratory irritation.



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system

Specific target organ toxicity - repeated exposure, Category 1, Auditory organs

H372: Causes damage to organs through prolonged or repeated exposure if inhaled.

Chronic aquatic toxicity, Category 3

H412: Harmful to aquatic life with long lasting effects.

## 2.2 Label elements

### Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal word : Danger

Hazard statements :

H226	Flammable liquid and vapour.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H361d	Suspected of damaging the unborn child.
H372	Causes damage to organs (Auditory organs) through prolonged or repeated exposure if inhaled.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements :

<b>Prevention:</b>	
P201	Obtain special instructions before use.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260	Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P273	Avoid release to the environment.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
<b>Response:</b>	
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Hazardous components which must be listed on the label:  
Styrene



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### 2.3 Other hazards

#### Additional advice

No information available.

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

Chemical nature : Static Accumulator

#### Hazardous components

Chemical name	CAS-No. EC-No. Registration number	Classification (REGULATION (EC) No 1272/2008)	Concentration (%)
Styrene	100-42-5 202-851-5 01-2119457861-32-0185 01-2119457861-32-xxxx	Flam. Liq.3; H226 Acute Tox.4; H332 Skin Irrit.2; H315 Eye Irrit.2; H319 Repr.2; H361d STOT SE3; H335 STOT RE1; H372 Asp. Tox.1; H304 Aquatic Chronic3; H412	>= 25,00 - < 40,00
Methacrylic acid	79-41-4 201-204-4 01-2119463884-26-0046 01-2119463884-26-0044	Acute Tox.4; H302 Acute Tox.4; H332 Acute Tox.3; H311 Skin Corr.1A; H314 Eye Dam.1; H318 STOT SE3; H335	>= 0,50 - < 1,00

For explanation of abbreviations see section 16.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

General advice : Consult a physician.  
Show this safety data sheet to the doctor in attendance.

Move out of dangerous area.



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Call a POISON CENTRE or doctor/physician if exposed or you feel unwell.

Show this safety data sheet to the doctor in attendance.

Do not leave the victim unattended.

If inhaled

- : Move to fresh air.
- Consult a physician after significant exposure.
- If symptoms persist, call a physician.
- In case of shortness of breath, give oxygen.

Move to fresh air.

IF INHALED: Call a POISON CENTER/ doctor if you feel unwell.

Keep patient warm and at rest.

If unconscious, place in recovery position and seek medical advice.

In case of skin contact

- : Take off contaminated clothing and shoes immediately.
- Wash off immediately with plenty of water.
- If skin irritation persists, call a physician.

Remove contaminated clothing. If irritation develops, get medical attention.

If on skin, rinse well with water.

Wash contaminated clothing before re-use.

If on clothes, remove clothes.

In case of eye contact

- : Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Get medical attention.
- Remove contact lenses.

Immediately flush eye(s) with plenty of water.

Remove contact lenses.

Protect unharmed eye.

If swallowed

- : Do not induce vomiting without medical advice.
- Never give anything by mouth to an unconscious person.
- Consult a physician if necessary.

Obtain medical attention.

Do not give milk or alcoholic beverages.

Never give anything by mouth to an unconscious person.

If symptoms persist, call a physician.



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

- Symptoms : Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include:  
stomach or intestinal upset (nausea, vomiting, diarrhea)  
irritation (nose, throat, airways)  
confusion
- Risks : Causes skin irritation.  
Causes serious eye irritation.  
May cause respiratory irritation.  
Suspected of damaging the unborn child.  
Causes damage to organs through prolonged or repeated exposure if inhaled.

#### 4.3 Indication of any immediate medical attention and special treatment needed

- Treatment : No hazards which require special first aid measures.

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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

- Suitable extinguishing media : Carbon dioxide (CO<sub>2</sub>)  
Dry chemical  
Foam  
Water spray
- Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.  
Water spray  
Foam  
Alcohol-resistant foam  
Carbon dioxide (CO<sub>2</sub>)  
Dry chemical
- Unsuitable extinguishing media : Halons  
High volume water jet  
High volume water jet



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## 5.2 Special hazards arising from the substance or mixture

- Specific hazards during firefighting : Do not use a solid water stream as it may scatter and spread fire.  
Do not allow run-off from fire fighting to enter drains or water courses.
- Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively.  
Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.  
Do not allow run-off from fire fighting to enter drains or water courses.
- Hazardous combustion products : Hydrocarbons  
carbon dioxide and carbon monoxide  
toxic fumes

## 5.3 Advice for firefighters

- Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.  
Use personal protective equipment.
- In the event of fire, wear self-contained breathing apparatus.
- Specific extinguishing methods : Product is compatible with standard fire-fighting agents.
- Further information : Keep containers and surroundings cool with water spray.  
Prevent fire extinguishing water from contaminating surface water or the ground water system.  
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.
- Do not use a solid water stream as it may scatter and spread fire.  
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.  
Use a water spray to cool fully closed containers.



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## SECTION 6: Accidental release measures

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

- Personal precautions : Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.  
 Ensure adequate ventilation.  
 Pay attention to the spreading of gases especially at ground level (heavier than air) and to the direction of the wind.  
 Evacuate personnel to safe areas.  
 Remove all sources of ignition.  
 Use personal protective equipment.  
 Ensure adequate ventilation.  
 Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.  
 Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.  
 Comply with all applicable federal, state, and local regulations.  
 Comply with all applicable federal, state, and local regulations.  
 Suppress (knock down) gases/vapours/mists with a water spray jet.

### 6.2 Environmental precautions

- Environmental precautions : Prevent further leakage or spillage if safe to do so.  
 Prevent product from entering drains.  
 Prevent further leakage or spillage if safe to do so.  
 If the product contaminates rivers and lakes or drains inform respective authorities.

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

- Methods for 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).  
 Keep in suitable, closed containers for disposal.  
 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).



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#### 6.4 Reference to other sections

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### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

Advice on safe handling : Avoid formation of aerosol.  
Do not breathe vapours or spray mist.  
Avoid contact with skin and eyes.  
For personal protection see section 8.  
Provide sufficient air exchange and/or exhaust in work rooms.  
Avoid exceeding the given occupational exposure limits (see section 8).  
Smoking, eating and drinking should be prohibited in the application area.  
Ensure all equipment is electrically grounded before beginning transfer operations.

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

Advice on protection against fire and explosion : Take measures to prevent the build up of electrostatic charge.  
Mixture may charge electrostatically: always use earthing leads when transferring from one container to another. Keep product and empty container away from heat and sources of ignition. No sparking tools should be used.

Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). No sparking tools should be used. Keep away from open flames, hot surfaces and sources of ignition. Use only explosion-proof equipment.



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Hygiene measures : Keep away from food, drink and animal feedingstuffs. When using do not eat, drink or smoke. Ensure that eyewash stations and safety showers are close to the workstation location.

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

**7.2 Conditions for safe storage, including any incompatibilities**

Requirements for storage areas and containers : Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

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. No smoking.

Other data : Stable under recommended storage conditions.

No decomposition if stored and applied as directed.

**7.3 Specific end use(s)****SECTION 8: Exposure controls/personal protection****8.1 Control parameters****Occupational Exposure Limits**

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Styrene	100-42-5	VLA-EC	40 ppm 172 mg/m <sup>3</sup>	ES VLA
		VLA-ED	20 ppm 86 mg/m <sup>3</sup>	ES VLA
Methacrylic acid	79-41-4	VLA-ED	20 ppm 72 mg/m <sup>3</sup>	ES VLA

**Biological occupational exposure limits**

Substance name	CAS-No.	Control parameters	Sampling time	Basis
STYRENE	100-42-5	mandelic acid and	End of workday	ES VLB

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		phenylglyoxilic acid: 400 mg/g Creatinine (Urine)		
		styrene: 0,2 mg/l (venous blood)	End of workday	ES VLB

**Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:**

Styrene

- : End Use: Workers
- Exposure routes: Inhalation
- Potential health effects: Short-term exposure, Systemic effects
- Value: 289 mg/m<sup>3</sup>
- End Use: Workers
- Exposure routes: Inhalation
- Potential health effects: Short-term exposure, Local effects
- Value: 306 mg/m<sup>3</sup>
- End Use: Workers
- Exposure routes: Inhalation
- Potential health effects: Long-term exposure, Systemic effects
- Value: 85 mg/m<sup>3</sup>
- End Use: Workers
- Exposure routes: Skin contact
- Potential health effects: Long-term exposure, Systemic effects
- Value: 406 mg/kg
- End Use: Consumers
- Exposure routes: Inhalation
- Potential health effects: Short-term exposure, Systemic effects
- Value: 174,25 mg/m<sup>3</sup>
- End Use: Consumers
- Exposure routes: Inhalation
- Potential health effects: Short-term exposure, Local effects
- Value: 182,75 mg/m<sup>3</sup>
- End Use: Consumers
- Exposure routes: Skin contact
- Potential health effects: Long-term exposure, Systemic effects
- Value: 343 mg/kg
- End Use: Consumers
- Exposure routes: Ingestion
- Potential health effects: Long-term exposure, Systemic effects
- Value: 2,1 mg/kg
- End Use: Consumers
- Exposure routes: Inhalation
- Potential health effects: Long-term exposure, Systemic effects
- Value: 10,2 mg/m<sup>3</sup>



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## 8.2 Exposure controls

### Engineering measures

Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below level of overexposure (from known, suspected or apparent adverse effects).

Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

### Personal protective equipment

Eye protection : Safety glasses with side-shields

Wear chemical splash goggles when there is the potential for exposure of the eyes to liquid, vapor or mist.

Hand protection

Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Skin and body protection : Wear as appropriate:  
Safety shoes  
Flame-resistant clothing  
Wear resistant gloves such as:  
polyvinyl alcohol

Wear as appropriate:  
Impervious clothing  
Safety shoes  
Flame-resistant clothing  
Choose body protection according to the amount and concentration of the dangerous substance at the work place.  
Discard gloves that show tears, pinholes, or signs of wear.

Respiratory protection : In the case of vapour formation use a respirator with an approved filter.  
When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

In the case of vapour formation use a respirator with an approved filter.



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## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Appearance	: liquid
Odour	: pungent
	: 145 °C
Flash point	: 29,4 °C
	Method: Seta closed cup
Evaporation rate	: > 1 Ethyl Ether = 1
Upper explosion limit	: 6,1 %(V)
Lower explosion limit	: 1,1 %(V)
Vapour pressure	: 8,53 hPa (25 °C) Calculated Vapor Pressure
Relative vapour density	: > 1 (Air = 1.0)
Density	: 1,05 g/cm <sup>3</sup>
Solubility(ies)	
Water solubility	: insoluble
Viscosity	
Viscosity, kinematic	: > 20,5 mm <sup>2</sup> /s (40 °C)

### 9.2 Other information

No data available



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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No decomposition if stored and applied as directed.

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

Hazardous reactions : Stable under recommended storage conditions.

Hazardous polymerisation may occur.  
Vapours may form explosive mixture with air.

Hazardous polymerisation may occur.  
Vapours may form explosive mixture with air.

### 10.4 Conditions to avoid

Conditions to avoid : Heat, flames and sparks.  
Exposure to sunlight.  
Exposure to air.

excessive heat  
Exposure to air.  
Exposure to sunlight.

Heat, flames and sparks.

### 10.5 Incompatible materials

Materials to avoid : Acids  
alkalis  
aluminum  
aluminum chloride  
Bases  
Copper  
Copper alloys  
halogens  
iron chloride  
metal salts  
Peroxides  
Strong oxidizing agents



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Acids  
aluminum  
aluminum chloride  
Bases  
Copper  
Copper alloys  
halogens  
iron chloride  
metal salts  
Oxidizing agents  
Peroxides

#### 10.6 Hazardous decomposition products

Hazardous decomposition products : carbon dioxide and carbon monoxide  
Hydrocarbons

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### SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects

Information on likely routes of exposure : Skin contact  
Eye Contact  
Ingestion  
Inhalation  
Skin contact  
Eye Contact  
Ingestion

#### Acute toxicity

Not classified based on available information.

#### Components:

Styrene

Acute oral toxicity : LD50 Oral (Rat): > 2.000 mg/kg

Acute inhalation toxicity : LC50 (Rat): 11,8 mg/l, 2770 ppm  
Exposure time: 4 h  
Test atmosphere: vapour

No observed adverse effect level (Humans): 100 ppm  
Exposure time: 7 h  
Test atmosphere: vapour

Acute dermal toxicity : LD50 (Rat): > 2.000 mg/kg  
Method: OECD Test Guideline 402



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Assessment: No adverse effect has been observed in acute dermal toxicity tests.

**Components:**

Methacrylic acid

Acute oral toxicity : LD50 (Mouse): 1.250 mg/kg

LD50 (Rat, male): 1.320 mg/kg  
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat): 7,1 mg/l

Exposure time: 4 h

Test atmosphere: vapour

Method: OECD Test Guideline 403

Assessment: The component/mixture is classified as acute inhalation toxicity, category 4.

Acute dermal toxicity : LD50 (Rabbit): 500 - 1.000 mg/kg

**Skin corrosion/irritation**

Causes skin irritation.

**Product:**

Result: Repeated exposure may cause skin dryness or cracking.

Remarks: May cause skin irritation and/or dermatitis.

**Components:**

Styrene

Species: Rabbit

Result: Irritating to skin.

Species: human skin

Result: No skin irritation

Methacrylic acid

Method: OECD Test Guideline 404

Result: Corrosive after 3 minutes or less of exposure

**Serious eye damage/eye irritation**

Causes serious eye irritation.

**Product:**

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

**Components:**



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Styrene

Result: Irritating to eyes.

Remarks: Vapour during processing may be irritating to the respiratory tract and to the eyes.

Methacrylic acid

Result: Corrosive

#### **Respiratory or skin sensitisation**

Skin sensitisation: Not classified based on available information.

Respiratory sensitisation: Not classified based on available information.

#### **Components:**

Styrene

Exposure routes: Skin contact

Species: Guinea pig

Assessment: Does not cause skin sensitisation.

Exposure routes: inhalation (vapour)

Species: Humans

Assessment: Does not cause respiratory sensitisation.

Methacrylic acid

Test Type: Buehler Test

Species: Guinea pig

Assessment: Did not cause sensitisation on laboratory animals.

Method: OECD Test Guideline 406

#### **Germ cell mutagenicity**

Not classified based on available information.

#### **Components:**

Methacrylic acid

Genotoxicity in vitro

: Test Type: Ames test  
Method: OECD Test Guideline 471  
Result: negative

: Test Type: Chromosome aberration test in vitro  
Method: OECD Test Guideline 487  
Result: negative

Genotoxicity in vivo

: Test Type: Mammalian bone marrow sister chromatid  
exchange  
Test species: Rat (male)  
Cell type: Bone marrow  
Method: OECD Test Guideline 475  
Result: negative





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Test Type: chromosome aberration assay  
 Test species: Mouse (male)  
 Method: OECD Test Guideline 478  
 Result: negative

Test Type: chromosome aberration assay  
 Test species: Mouse (male)  
 Cell type: peripheral blood cells  
 Method: OECD Test Guideline 474  
 Result: negative

#### **Carcinogenicity**

Not classified based on available information.

#### **Reproductive toxicity**

Suspected of damaging the unborn child.

#### **Components:**

Styrene

Reproductive toxicity - Assessment : Some evidence of adverse effects on development, based on animal experiments.

Methacrylic acid  
 Effects on fertility

: Species: Rat  
 Application Route: Oral  
 Fertility: No observed adverse effect level (Mating/Fertility):  
 400 mg/kg body weight  
 Symptoms: No effects on fertility No effects on reproduction  
 parameters  
 Method: OECD Test Guideline 416

Effects on foetal  
 development

: Species: Rabbit  
 Application Route: Oral  
 Developmental Toxicity: No observed adverse effect level F1:  
 450 mg/kg body weight  
 Symptoms: No specific developmental abnormalities  
 Method: OECD Test Guideline 414

#### **STOT - single exposure**

May cause respiratory irritation.

#### **Components:**

Styrene

Assessment: May cause respiratory irritation.

Methacrylic acid  
 Exposure routes: Inhalation  
 Target Organs: Respiratory Tract



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Assessment: May cause respiratory irritation.

#### **STOT - repeated exposure**

Causes damage to organs (Auditory organs) through prolonged or repeated exposure if inhaled.

#### **Components:**

Styrene

Exposure routes: inhalation (vapour)

Target Organs: Auditory system

Assessment: Causes damage to organs through prolonged or repeated exposure.

#### **Repeated dose toxicity**

#### **Components:**

Styrene

Species: Human

85 mg/m<sup>3</sup>

Application Route: inhalation (vapour)

Species: Human

615 mg/kg

Application Route: Skin contact

Methacrylic acid

Species: Rat, male and female

NOAEC: 352 mg/m<sup>3</sup>

Application Route: inhalation (dust/mist/fume)

Exposure time: 90 Days

Group: yes

Symptoms: Local irritation, Reduced body weight

#### **Aspiration toxicity**

Not classified based on available information.

#### **Components:**

Styrene

May be fatal if swallowed and enters airways.

#### **Further information**

#### **Product:**

Remarks: Solvents may degrease the skin.



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## SECTION 12: Ecological information

### 12.1 Toxicity

#### Components:

Styrene

- Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 4,02 mg/l  
Exposure time: 96 h
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 4,7 mg/l  
Exposure time: 48 h
- Toxicity to algae : ErC50 (Pseudokirchneriella subcapitata (green algae)): 4,9 mg/l  
Exposure time: 72 h
- EC10 (Pseudokirchneriella subcapitata (green algae)): 0,28 mg/l  
Exposure time: 96 h
- Toxicity to bacteria : EC50 (activated sludge): ca. 500 mg/l  
Exposure time: 0,5 h
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 1,01 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)
- Toxicity to soil dwelling organisms : NOEC: 34 mg/kg  
Exposure time: 14 d  
Species: Eisenia fetida (earthworms)  
Method: OECD Test Guideline 207
- Methacrylic acid
- Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 85 mg/l  
Exposure time: 96 h  
Test Type: flow-through test
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 130 mg/l  
Exposure time: 48 h  
Test Type: flow-through test
- Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (green algae)): 20 mg/l  
End point: Biomass

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Exposure time: 72 h  
 Test Type: flow-through test  
 Method: OECD Test Guideline 201

Toxicity to fish (Chronic toxicity) : NOEC: 10 mg/l  
 Exposure time: 35 d  
 Species: Danio rerio (zebra fish)  
 Test Type: flow-through test  
 Method: OECD Test Guideline 210

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 53 mg/l  
 Exposure time: 21 d  
 Species: Daphnia magna (Water flea)  
 Test Type: flow-through test  
 Method: OECD Test Guideline 211

**12.2 Persistence and degradability****Components:**

Styrene  
 Biodegradability : Result: Readily biodegradable.  
 Biodegradation: > 60 %  
 Exposure time: 10 d

Methacrylic acid  
 Biodegradability : Inoculum: activated sludge  
 Result: Readily biodegradable.  
 Biodegradation: 87 %  
 Exposure time: 28 d

**12.3 Bioaccumulative potential****Components:**

Styrene  
 Bioaccumulation : Bioconcentration factor (BCF): < 100

Partition coefficient: n-octanol/water : log Pow: 2,96 (25 °C)

Methacrylic acid  
 Bioaccumulation : Bioconcentration factor (BCF): 1,0  
 Remarks: Bioaccumulation is unlikely.

Partition coefficient: n- : log Pow: 0,93



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octanol/water

#### 12.4 Mobility in soil

##### Components:

Styrene  
Distribution among : Koc: 352  
environmental compartments

#### 12.5 Results of PBT and vPvB assessment

##### Components:

Styrene  
Assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT).. This substance is not considered to be very persistent and very bioaccumulating (vPvB)..

#### 12.6 Other adverse effects

##### Product:

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

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### SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods

Product : Dispose of in accordance with the European Directives on waste and hazardous waste.

Do not contaminate ponds, waterways or ditches with chemical or used container.  
Container hazardous when empty.  
Dispose of in accordance with local regulations.

The product should not be allowed to enter drains, water courses or the soil.  
Do not contaminate ponds, waterways or ditches with chemical or used container.  
Send to a licensed waste management company.



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Contaminated packaging : Empty remaining contents.  
Dispose of as unused product.  
Empty containers should be taken to an approved waste handling site for recycling or disposal.  
Do not re-use empty containers.  
Do not burn, or use a cutting torch on, the empty drum.

Empty remaining contents.  
Dispose of as unused product.  
Empty containers should be taken to an approved waste handling site for recycling or disposal.  
Do not re-use empty containers.  
Do not burn, or use a cutting torch on, the empty drum.

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## SECTION 14: Transport information

### SECTION 14: Transport information

#### 14.1 UN number

**ADR:** UN1866

**INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO:** UN1866

**INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER:** UN1866

**INTERNATIONAL MARITIME DANGEROUS GOODS:** UN1866

**RID:** UN1866

#### 14.2 UN proper shipping name

**ADR:** RESIN SOLUTION

**INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO:** Resin solution

**INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER:** Resin solution

**INTERNATIONAL MARITIME DANGEROUS GOODS:** RESIN SOLUTION

**RID:** RESIN SOLUTION

#### 14.3 Transport hazard class(es)

**ADR:** 3

**INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO:** 3

**INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER:** 3

**INTERNATIONAL MARITIME DANGEROUS GOODS:** 3

**RID:** 3

#### 14.4 Packing group



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**ADR:** III

**INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO:** III

**INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER:** III

**INTERNATIONAL MARITIME DANGEROUS GOODS:** III

**RID:** III

#### 14.5 Environmental hazards

**ADR:** Not applicable

**INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO:** Not applicable

**INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER:** Not applicable

**INTERNATIONAL MARITIME DANGEROUS GOODS:** Not applicable

**RID:** Not applicable

#### 14.6 Special precautions for user

Not applicable

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

Ship Type: Not applicable

Hazard code(s): Not applicable

Pollutant Category: Not applicable

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable

Regulation (EC) No 850/2004 on persistent organic pollutants : Not applicable

REACH - List of substances subject to authorisation (Annex XIV) : Not applicable

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : Not applicable

Regulation (EC) No 649/2012 of the European : Not applicable



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Parliament and the Council concerning the export and import of dangerous chemicals

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) : Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

		Quantity 1	Quantity 2
P5c	FLAMMABLE LIQUIDS	5.000 t	50.000 t

Other regulations : Young people under 18 years old are not allowed to work with this product according to the EU Directive 94/33/EC on the protection of young people at work.

Pregnant women may only work with or be exposed to this product if, based on a risk assessment in the context of the activities and risk management measures taken, the exposure will not lead to any injury for mother and/or child (Maternity Protection Directive 92/85/EC as amended).

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

DSL	: This product contains one or several components that are not on the Canadian DSL and have annual quantity limits.
AICS	Not in compliance with the inventory
ENCS	Not in compliance with the inventory
KECI	On the inventory, or in compliance with the inventory
PICCS	Not in compliance with the inventory
IECSC	On the inventory, or in compliance with the inventory
TSCA	On TSCA Inventory

**Inventories**

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





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Spain Registration  
number

DRP18-0019161

## 15.2 Chemical safety assessment

### SECTION 16: Other information

#### Further information

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#### Classification procedure:

H226	Flammable liquid and vapour.	Based on product data or assessment
H315	Causes skin irritation.	Calculation method
H319	Causes serious eye irritation.	Calculation method
H361d	Suspected of damaging the unborn child.	Calculation method
H335	May cause respiratory irritation.	Calculation method
H372	Causes damage to organs through prolonged or repeated exposure if inhaled.	Calculation method
H412	Harmful to aquatic life with long lasting effects.	Calculation method

#### Full text of H-Statements

H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H361d	Suspected of damaging the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure if inhaled.
H412	Harmful to aquatic life with long lasting effects.



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Other information : The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This SDS has been prepared by Ashland's Environmental Health and Safety Department (+31 10 497 5000).

Sources of key data used to compile the Safety Data Sheet  
Ashland internal data including own and sponsored test reports  
The UNECE administers regional agreements implementing harmonised classification for labelling (GHS) and transport.

List of abbreviations and acronyms that could be, but not necessarily are, used in this safety data sheet :

ACGIH : American Conference of Industrial Hygienists  
BEI : Biological Exposure Index  
CAS : Chemical Abstracts Service (Division of the American Chemical Society).  
CMR : Carcinogenic, Mutagenic or Toxic for Reproduction  
FG : Food grade  
GHS : Globally Harmonized System of Classification and Labeling of Chemicals.  
H-statement : Hazard Statement  
IATA : International Air Transport Association.  
IATA-DGR : Dangerous Goods Regulation by the "International Air Transport Association" (IATA).  
ICAO : International Civil Aviation Organization  
ICAO-TI (ICAO) : Technical Instructions by the "International Civil Aviation Organization"  
IMDG : International Maritime Code for Dangerous Goods  
ISO : International Organization for Standardization  
logPow : octanol-water partition coefficient  
LCxx : Lethal Concentration, for xx percent of test population  
LDxx : Lethal Dose, for xx percent of test population.  
ICxx : Inhibitory Concentration for xx of a substance  
Ecxx : Effective Concentration of xx  
N.O.S.: Not Otherwise Specified  
OECD : Organization for Economic Co-operation and Development  
OEL : Occupational Exposure Limit  
P-Statement : Precautionary Statement  
PBT : Persistent , Bioaccumulative and Toxic



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PPE : Personal Protective Equipment  
 STEL : Short-term exposure limit  
 STOT : Specific Target Organ Toxicity  
 TLV : Threshold Limit Value  
 TWA : Time-weighted average  
 vPvB : Very Persistent and Very Bioaccumulative  
 WEL : Workplace Exposure Level

ABM : Water Hazard Class for the Netherlands  
 ADR : Agreement concerning the International Carriage of Dangerous Goods by Road.  
 ADN: Regulation for the Carriage of Dangerous Substances on the Rhine  
 CLP : Classification, Labelling and Packaging  
 CSA : Chemical Safety Assessment  
 CSR : Chemical Safety Report  
 DNEL : Derived No Effect Level.  
 EINECS : European Inventory of Existing Commercial Chemical Substances.  
 ELINCS : European List of Notified Chemical Substances  
 GV: Exposure limits (DK)  
 PEC : Predicted Effect Concentration  
 PEL : Permissible Exposure Limits  
 PNEC : Predicted No Effect Concentration  
 R-phrase : Risk phrase  
 REACH : Registration, Evaluation, Authorisation and Restriction of Chemicals  
 RID : Regulation Concerning the International Transport of Dangerous Goods by Rail  
 S-phrase: Safety phrase  
 WGK : German Water Hazard Class