

# SAFETY DATA SHEET



## AMERLOCK 2AL ALUMINUM CURE

Date of issue 31 January 2024

Version 22.01

### 1. Product and company identification

**Product name** : AMERLOCK 2AL ALUMINUM CURE  
**Product code** : 00333526  
**Product type** : Liquid.

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

**Product use** : Industrial applications, Used by spraying.

**Use of the substance/  
mixture** : Coating.

**Uses advised against** : Not applicable.

**Supplier's details** : PPG PMC Japan Co., Ltd., 8F, Shintetsu Bldg., 1-1, Daikaidori 1-chome, Kobe  
652-0803 Japan; Tel: +81-78-574-2777

**Emergency telephone  
number** : 078 574 2777

### 2. Hazards identification

**GHS Classification** : FLAMMABLE LIQUIDS - Category 3  
SKIN CORROSION - Category 1  
SERIOUS EYE DAMAGE - Category 1  
RESPIRATORY SENSITIZATION - Category 1  
SKIN SENSITIZATION - Category 1  
CARCINOGENICITY - Category 1A  
TOXIC TO REPRODUCTION - Category 1B  
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 1  
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1  
HAZARDOUS TO THE AQUATIC ENVIRONMENT - ACUTE HAZARD - Category 1  
HAZARDOUS TO THE AQUATIC ENVIRONMENT - CHRONIC HAZARD -  
Category 1

#### GHS label elements

**Hazard pictograms** :



**Signal word** : Danger

**Hazard statements** : Flammable liquid and vapor.  
Causes severe skin burns and eye damage.  
May cause an allergic skin reaction.  
May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
May cause cancer.  
May damage fertility or the unborn child.  
Causes damage to organs. (central nervous system (CNS), kidneys, liver,  
respiratory organs)

## 2. Hazards identification

Causes damage to organs through prolonged or repeated exposure. (hearing organs, kidneys, liver, nervous system, respiratory organs)  
Very toxic to aquatic life with long lasting effects.

### Precautionary statements

#### Prevention

: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves, protective clothing and eye or face protection. Wear respiratory protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Avoid release to the environment. Do not breathe vapor. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.

#### Response

: Collect spillage. IF exposed or concerned: Call a POISON CENTER or doctor. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor. If experiencing respiratory symptoms: Call a POISON CENTER or doctor. IF SWALLOWED: Immediately call a POISON CENTER or doctor. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER or doctor. Wash contaminated clothing before reuse. IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice or attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.

#### Storage

: Store locked up.

#### Disposal

: Dispose of contents and container in accordance with all local, regional, national and international regulations.

#### Other hazards which do not result in classification

: Causes digestive tract burns. Prolonged or repeated contact may dry skin and cause irritation.

## 3. Composition/information on ingredients

Substance/mixture : Mixture

### CAS number/other identifiers

CAS number : Not applicable.

CSCL number : Not available.

Ingredient name	%	CAS number	CSCL
barium sulfate	25 - <50	7727-43-7	1-89
Talc containing no asbestos or quartz	20 - <25	14807-96-6	Not available.
4-Nonylphenol (branched)	10 - <12.5	84852-15-3	3-503
Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine	7 - <10	68082-29-1	7-401
diisodecyl phthalate	5 - <7	68515-49-1	3-1307
Xylene	5 - <7	1330-20-7	3-3; 3-60
m-Xylylenediamine	3 - <5	1477-55-0	3-2888; 3-308
Poly[oxy(methyl-1,2-ethanediyl)], α-(2-aminomethylethyl)-ω-(2-aminomethylethoxy)-	3 - <5	9046-10-0 (n = 2-6)	(7)-324
4-tert-butylphenol	2 - <3	98-54-4	3-503
Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane and 1,2-ethanediamine	1 - <2	36704-31-1	Not available.
Ethylbenzene	1 - <2	100-41-4	3-28; 3-60
Phenol, 2-nonyl-, branched	1 - <2	91672-41-2	3-503
Polyamidoamine	0.5 - <1	SUB104580	Not available.

### 3. Composition/information on ingredients

Triethylenetetramine	0.2 - <0.5	112-24-3	2-163; 7-5
Ethanol	0.2 - <0.5	64-17-5	2-202
Reaction products of 12-hydroxyoctadecanoic acid and octadecanoic acid and 1,3-phenylenedimethanamine	0.1 - <0.2	911674-82-3	Not available.
3,6,9-triazaundecamethylenediamine	0.1 - <0.2	112-57-2	2-162; 7-5

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

SUB codes represent substances without registered CAS Numbers.

### 4. First aid measures

#### Description of necessary first aid measures

- Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.
- Inhalation** : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.
- Skin contact** : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.
- Ingestion** : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

#### Most important symptoms/effects, acute and delayed

##### Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- Skin contact** : Causes severe burns. Causes damage to organs following a single exposure in contact with skin. Defatting to the skin. May cause an allergic skin reaction.
- Ingestion** : Corrosive to the digestive tract. Causes burns. Causes damage to organs following a single exposure if swallowed.

#### Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:  
pain  
watering  
redness
- Inhalation** : Adverse symptoms may include the following:  
wheezing and breathing difficulties  
asthma  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations
- Skin contact** : Adverse symptoms may include the following:  
pain or irritation  
redness  
dryness  
cracking  
blistering may occur  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations

## 4. First aid measures

**Ingestion** : Adverse symptoms may include the following:  
stomach pains  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations

### Indication of immediate medical attention and special treatment needed, if necessary

**Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

**Specific treatments** : No specific treatment.

**Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

## 5. Fire-fighting measures

### Extinguishing media

**Suitable extinguishing media** : Use dry chemical, CO<sub>2</sub>, water spray (fog) or foam.

**Unsuitable extinguishing media** : Do not use water jet.

**Specific hazards arising from the chemical** : Flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. This material is very toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

**Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon oxides  
nitrogen oxides  
sulfur oxides  
halogenated compounds  
metal oxide/oxides

**Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

## 6. Accidental release measures

**For emergency responders :** If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**Environmental precautions :** Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

### Methods and materials for containment and cleaning up

**Small spill :** Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

**Large spill :** Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## 7. Handling and storage

**Precautions for safe handling :** Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

**Conditions for safe storage :** Do not store above the following temperature: 50°C (122°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

## 8. Exposure controls/personal protection

### Control parameters

### Occupational exposure limits

Ingredient name	Exposure limits
Talc containing no asbestos or quartz	<b>Japan Society for Occupational Health (Japan, 9/2022). [Class 1 dusts (Activated charcoal, Alumina, Aluminium, Bentonite, Diatomite, Graphite, Kaolinite, Pagodite, Pyrites, Pyrite cinder, Talc)]</b> OEL-M: 0.5 mg/m <sup>3</sup> 8 hours. Form: Respirable dust (Class 1 Dust) OEL-M: 2 mg/m <sup>3</sup> 8 hours. Form: Total dust (Class 1 Dust)
Xylene	<b>Industrial Safety and Health Act (Japan, 6/2020). [xylene]</b> TWA: 50 ppm 8 hours. <b>Japan Society for Occupational Health (Japan, 9/2022).</b> OEL-M: 50 ppm 8 hours. OEL-M: 217 mg/m <sup>3</sup> 8 hours.
m-Xylylenediamine	<b>Japan Society for Occupational Health (Japan, 9/2022). Skin sensitizer.</b>
Ethylbenzene	<b>Japan Society for Occupational Health (Japan, 9/2022). Absorbed through skin.</b> OEL-M: 87 mg/m <sup>3</sup> 8 hours. OEL-M: 20 ppm 8 hours. <b>Industrial Safety and Health Act (Japan, 6/2020).</b> TWA: 20 ppm 8 hours.

**Recommended monitoring procedures** : Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

**Appropriate engineering controls** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye protection** : Chemical splash goggles and face shield.

**Skin protection**

## 8. Exposure controls/personal protection

- Hand protection** : 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. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Gloves** : butyl rubber
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Use an air-fed respirator unless a site-specific assessment determines that an air-fed respirator is not necessary, in which case the results of the risk assessment should be utilized to determine whether respiratory protection is necessary and what type of protection is appropriate. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

## 9. Physical and chemical properties

### Appearance

- Physical state** : Liquid.
- Odor** : Characteristic.
- Boiling point** : >37.78°C (>100°F)
- Flash point** : Closed cup: 50°C (122°F)
- Evaporation rate** : 0.7 (butyl acetate = 1)
- Vapor pressure** : 1.2 kPa (8.8 mm Hg)
- Relative density** : 1.48

### Solubility(ies)

Media	Result
cold water	Not soluble

## 10. Stability and reactivity

- Reactivity** : No specific test data related to reactivity available for this product or its ingredients.
- Chemical stability** : The product is stable.
- Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- Conditions to avoid** : When exposed to high temperatures may produce hazardous decomposition products.
- Incompatible materials** : Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids.



## 10. Stability and reactivity

**Hazardous decomposition products** : Depending on conditions, decomposition products may include the following materials: carbon oxides nitrogen oxides sulfur oxides halogenated compounds metal oxide/oxides

## 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
barium sulfate	LD50 Dermal	Rat	>2000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
4-Nonylphenol (branched)	LD50 Dermal	Rabbit	2.14 g/kg	-
	LD50 Oral	Rat	1300 mg/kg	-
Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine	LD50 Dermal	Rat	>2000 mg/kg	-
	LD50 Oral	Rat	>2000 mg/kg	-
diisodecyl phthalate	LD50 Oral	Rat	>2000 mg/kg	-
	LD50 Dermal	Rabbit	16000 mg/kg	-
Xylene	LD50 Oral	Rat	>60000 mg/kg	-
	LD50 Dermal	Rabbit	1.7 g/kg	-
m-Xylylenediamine	LD50 Oral	Rat	4.3 g/kg	-
	LC50 Inhalation Gas.	Rat	700 ppm	1 hours
	LD50 Dermal	Rat - Male, Female	>3100 mg/kg	-
	LD50 Oral	Rat	930 mg/kg	-
Poly[oxy(methyl-1,2-ethanediyl)], $\alpha$ -(2-aminomethylethyl)- $\omega$ -(2-aminomethylethoxy)-	LD50 Oral	Rat	2980 mg/kg	-
	LD50 Dermal	Rat	2980 mg/kg	-
4-tert-butylphenol	LD50 Oral	Rat	2885 mg/kg	-
	LD50 Dermal	Rabbit	2.29 g/kg	-
Ethylbenzene	LD50 Oral	Rat	2.95 g/kg	-
	LC50 Inhalation Vapor	Rat	17.8 mg/l	4 hours
Polyamidoamine	LD50 Dermal	Rabbit	17.8 g/kg	-
	LD50 Oral	Rat	3.5 g/kg	-
Triethylenetetramine	LD50 Oral	Rat	>2 g/kg	-
	LD50 Dermal	Rabbit	1465 mg/kg	-
Ethanol	LD50 Oral	Rat	1716 mg/kg	-
	LC50 Inhalation Vapor	Rat	124700 mg/m <sup>3</sup>	4 hours
Reaction products of 12-hydroxyoctadecanoic acid and octadecanoic acid and 1,3-phenylenedimethanamine 3,6,9-triazaundecamethylenediamine	LD50 Dermal	Rat	7100 mg/kg	-
	LD50 Oral	Rat	7 g/kg	-
	LC50 Inhalation Dusts and mists	Rat	>5.08 mg/l	4 hours
	LD50 Dermal	Rabbit	0.66 g/kg	-
	LD50 Oral	Rat	0.205 g/kg	-

#### Irritation/Corrosion



## 11. Toxicological information

Product/ingredient name	Result	Species	Score	Exposure	Observation
4-Nonylphenol (branched)	Skin - Erythema/Eschar	Rabbit	4	-	-
Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine	Eyes - Severe irritant	Rabbit	-	-	-
Xylene	Skin - Irritant	Human	-	-	-
m-Xylylenediamine	Skin - Moderate irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Severe irritant	Rat	-	4 hours	4 hours

### Sensitization

Product/ingredient name	Route of exposure	Species	Result
Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine	skin	Mouse	Sensitizing
m-Xylylenediamine	skin	Mouse	Sensitizing
Triethylenetetramine	skin	Guinea pig	Sensitizing

### Mutagenicity

Not available.

### Carcinogenicity

Not available.

### Reproductive toxicity

Not available.

### Teratogenicity

Not available.

### Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Talc containing no asbestos or quartz	Category 1	-	respiratory organs
4-Nonylphenol (branched)	Category 3	-	Respiratory tract irritation
Xylene	Category 3	-	Narcotic effects
	Category 1	-	central nervous system (CNS), kidneys, liver, respiratory organs
m-Xylylenediamine	Category 3	-	Narcotic effects
4-tert-butylphenol	Category 1	-	respiratory organs
	Category 3	-	Respiratory tract irritation
Ethylbenzene	Category 3	-	Respiratory tract irritation
Polyamidoamine	Category 3	-	Narcotic effects
	Category 3	-	Respiratory tract irritation
Triethylenetetramine	Category 3	-	Respiratory tract irritation
Ethanol	Category 3	-	Respiratory tract

# 11. Toxicological information

	Category 3		irritation Narcotic effects
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## Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
barium sulfate	Category 1	-	respiratory organs
Talc containing no asbestos or quartz	Category 1	-	respiratory organs
4-Nonylphenol (branched)	Category 2	-	kidneys, liver
Xylene	Category 1	-	nervous system, respiratory organs
m-Xylylenediamine	Category 1	-	respiratory organs
Ethylbenzene	Category 1	-	hearing organs, nervous system
Ethanol	Category 1 Category 2	-	liver central nervous system (CNS)

## Aspiration hazard

Name	Result
Xylene	ASPIRATION HAZARD - Category 1
Ethylbenzene	ASPIRATION HAZARD - Category 1

**Information on the likely routes of exposure** : Not available.

## Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- Skin contact** : Causes severe burns. Causes damage to organs following a single exposure in contact with skin. Defatting to the skin. May cause an allergic skin reaction.
- Ingestion** : Corrosive to the digestive tract. Causes burns. Causes damage to organs following a single exposure if swallowed.

## Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following:  
pain  
watering  
redness
- Inhalation** : Adverse symptoms may include the following:  
wheezing and breathing difficulties  
asthma  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations
- Skin contact** : Adverse symptoms may include the following:  
pain or irritation  
redness  
dryness  
cracking  
blistering may occur  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations

## 11. Toxicological information

**Ingestion** : Adverse symptoms may include the following:  
 stomach pains  
 reduced fetal weight  
 increase in fetal deaths  
 skeletal malformations

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

#### Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

#### Potential chronic health effects

**General** : Causes damage to organs through prolonged or repeated exposure. Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

**Carcinogenicity** : May cause cancer. Risk of cancer depends on duration and level of exposure.

**Mutagenicity** : No known significant effects or critical hazards.

**Reproductive toxicity** : May damage fertility or the unborn child.

### Numerical measures of toxicity

#### Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
AMERLOCK 2AL ALUMINUM CURE	5279.7	3403.0	N/A	127.7	11.1
barium sulfate	N/A	2500	N/A	N/A	N/A
4-Nonylphenol (branched)	1300	2140	N/A	N/A	N/A
Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine	2500	2500	N/A	N/A	N/A
diisodecyl phthalate	N/A	16000	N/A	N/A	N/A
Xylene	4300	1700	N/A	11	N/A
m-Xylylenediamine	930	1100	N/A	N/A	0.5
Poly[oxy(methyl-1,2-ethanediyl)], $\alpha$ -(2-aminomethylethyl)- $\omega$ -(2-aminomethylethoxy)-4-tert-butylphenol	2885	2980	N/A	N/A	N/A
Ethylbenzene	2950	2290	N/A	N/A	N/A
Phenol, 2-nonyl-, branched	3500	17800	N/A	17.8	N/A
Polyamidoamine	500	N/A	N/A	N/A	N/A
Triethylenetetramine	2500	N/A	N/A	N/A	N/A
Ethanol	N/A	300	N/A	N/A	N/A
3,6,9-triazaundecamethylenediamine	7000	17100	N/A	124.7	N/A
	N/A	660	N/A	N/A	N/A

**Other information** :

## 11. Toxicological information

Causes digestive tract burns. Prolonged or repeated contact may dry skin and cause irritation. Sanding and grinding dusts may be harmful if inhaled. Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. Avoid contact with skin and clothing. Exposure to amine vapor has been reported to cause transient corneal edema described as blue haze, halo effect, foggy or blurred vision for several hours. This condition is typically temporary and does not cause permanent visual effects. When the proper eye protection specified in Section 8 is worn, exposure is significantly reduced and the condition has not been observed.

## 12. Ecological information

### Toxicity

Product/ingredient name	Result	Species	Exposure
4-Nonylphenol (branched)	Acute EC50 0.044 mg/l Acute LC50 0.221 mg/l EC10 1.78 mg/l	Crustaceans - <i>Moina macrocopa</i> Fish Algae	48 hours 96 hours 72 hours
Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine	EC50 15 mg/l	Algae	72 hours
Poly[oxy(methyl-1,2-ethanediyl)], α-(2-aminomethylethyl)-ω-(2-aminomethylethoxy)-Ethylbenzene	Acute EC50 1.8 mg/l Fresh water Chronic NOEC 1 mg/l Fresh water	Daphnia Daphnia - <i>Ceriodaphnia dubia</i>	48 hours -
Phenol, 2-nonyl-, branched	Acute LC50 0.017 mg/l	Fish - <i>Pleuronectes americanus</i>	96 hours
Ethanol	Acute EC50 7640 mg/l Fresh water Acute LC50 >100 mg/l	Daphnia - <i>Daphnia magna</i> Fish	48 hours 96 hours
Reaction products of 12-hydroxyoctadecanoic acid and octadecanoic acid and 1,3-phenylenedimethanamine			

### Persistence/degradability

Product/ingredient name	Test	Result	Dose	Inoculum
Ethylbenzene	-	79 % - Readily - 10 days	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine	-	-	Not readily
Xylene	-	-	Readily
Poly[oxy(methyl-1,2-ethanediyl)], α-(2-aminomethylethyl)-ω-(2-aminomethylethoxy)-Ethylbenzene	-	-	Not readily
Ethylbenzene	-	-	Readily
Ethanol	-	-	Readily

### Bioaccumulative potential

## 12. Ecological information

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
4-Nonylphenol (branched)	5.4	251.19	Low
diisodecyl phthalate	8.8	-	High
Xylene	3.12	7.4 to 18.5	Low
m-Xylylenediamine	0.18	2.69	Low
4-tert-butylphenol	3	67.61	Low
Ethylbenzene	3.6	79.43	Low
Triethylenetetramine	-1.66 to -1.4	-	Low
Ethanol	-0.35	-	Low

### Mobility in soil

Soil/water partition coefficient (K<sub>oc</sub>) : Not available.

Mobility : Not available.

Other adverse effects : No known significant effects or critical hazards.

## 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## 14. Transport information

	UN	IMDG	IATA
UN number	UN1263	UN1263	UN1263
UN proper shipping name	PAINT	PAINT	PAINT
Transport hazard class(es)	3	3	3
Packing group	III	III	III
Environmental hazards	Yes. The environmentally hazardous substance mark is not required.	Yes.	Yes. The environmentally hazardous substance mark is not required.
Marine pollutant substances	Not applicable.	(4-nonylphenol, branched)	Not applicable.

## 14. Transport information

### Additional information

- UN** : None identified.
- IMDG** : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.
- IATA** : The environmentally hazardous substance mark may appear if required by other transportation regulations.

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**Transport in bulk according to IMO instruments** : Not applicable.

## 15. Regulatory information

### Fire Service Law

Category	Substance name/Type	Danger category	Signal word	Designated quantity
Category IV	Class II petroleums	III	Flammable - Keep Fire Away	1000 L

### Pollutant Release and Transfer Registers (PRTR)

Ingredient name	%	Status	Reference number
Alkylphenol (limited to those the alkyl group is C9)	12	Class 1	320
Xylene	6.6	Class 1	80
4-tert-Butylphenol	2.9	Class 2	368
Ethylbenzene	1.2	Class 1	53

### Industrial Safety and Health Act

#### Ordinance on the Prevention of the Hazard due to Specified Chemical Substances

Ingredient name	%	Status	Reference number
Ethyl benzene	≤10	Group-2 Substances under Supervision	3-3

#### Substance(s) requiring labelling

Ingredient name	%	Status	Reference number
Xylene	≤10	Listed	136
m-Xylylenediamine	≤10	Listed	555
Ethylbenzene	≤10	Listed	70
Ethanol	≤10	Listed	61

#### Chemicals requiring notification

Ingredient name	%	Status	Reference number
Xylene	≤10	Listed	136
m-Xylylenediamine	≤10	Listed	555
Ethylbenzene	≤10	Listed	70
Ethanol	≤10	Listed	61

#### Carcinogens based on Article 577-2 of the Ordinance on ISH

## 15. Regulatory information

None of the components are listed.

### Mutagen

None of the components are listed.

- Corrosive liquid** : Not listed
- Occupational Safety and Health Law** : Inflammable, Combustible
- Regulations on the Prevention of Tetraalkyl Lead Poisoning** : Not listed
- Harmful Substances Subject to Obtaining Permission for Manufacturing** : Not listed
- Harmful Substances, Prohibited for Manufacturing** : Not listed
- ISHL Enforcement Order Appendix 1 - Dangerous Substances** : Inflammable, Combustible
- Lead regulation** : Not listed
- Organic solvents poisoning prevention** : Class 2

### Poisonous and Deleterious Substances

None of the components are listed.

### Chemical Substances Control Law (CSCL)

Ingredient name	%	Status	Reference number
Xylene	≤10	Priority assessment	125
Ethylbenzene	≤10	Priority assessment	50
Toluene	≤10	Priority assessment	46
Methyl isobutyl ketone	≤10	Priority assessment	116
Benzene	≤10	Priority assessment	45

**High Pressure Gas Control Law** : Not available.

### Explosives Control Law

None of the components are listed.

**Law concerning prevention of pollution of the ocean** : Not available.

### Maritime Safety Law

#### Notification Regulating Transportation of Dangerous Materials by Sea

None of the components are listed.

### Container class

None of the components are listed.



## 15. Regulatory information

JSOH Carcinogen : Group 2B

List of Specially Controlled Industrial Waste : Not listed

Japan inventory : All components are listed or exempted.

Road law : Not available.

## 16. Other information

### History

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Prepared by : EHS

Key to abbreviations : ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway  
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road  
ATE = Acute Toxicity Estimate  
BCF = Bioconcentration Factor  
GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
IATA = International Air Transport Association  
IMDG = International Maritime Dangerous Goods  
LogPow = logarithm of the octanol/water partition coefficient  
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail  
UN = United Nations

▣ Indicates information that has changed from previously issued version.

### Notice to reader

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