



## ES-215 Resin (A)

Revision Date 05/17/2024

Print Date 05/17/2024

### SECTION 1. IDENTIFICATION

Product name : ES-215 Resin (A)

Company name : Sika Corporation  
201 Polito Avenue  
Lyndhurst, NJ 07071  
USA  
www.sikausa.com

Telephone : (201) 933-8800

Telefax : (201) 804-1076

E-mail address : ehs@sika-corp.com

Emergency telephone : CHEMTREC: 800-424-9300  
INTERNATIONAL: +1-703-527-3887

Recommended use of the chemical and restrictions on use : For further information, refer to product data sheet.

### SECTION 2. HAZARDS IDENTIFICATION


#### GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin irritation : Category 2

Eye irritation : Category 2A

Skin sensitization : Category 1

#### GHS label elements

Hazard pictograms : 

Signal Word : Warning

Hazard Statements : H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H319 Causes serious eye irritation.

Precautionary Statements : **Prevention:**  
P261 Avoid breathing mist or vapors.



## ES-215 Resin (A)

Revision Date 05/17/2024

Print Date 05/17/2024

P264 Wash skin thoroughly after handling.  
P272 Contaminated work clothing must not be allowed out of the workplace.  
P280 Wear protective gloves/ eye protection/ face protection.

### Response:

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.  
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 + P364 Take off contaminated clothing and wash it before reuse.

### Disposal:

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

### Additional Labeling

There are no ingredients with unknown acute toxicity used in a mixture at a concentration  $\geq 1\%$ .

### Other hazards

None known.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Mixtures

#### Components

Chemical name	CAS-No.	Classification	Concentration (% w/w)
Oxirane, 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis-	1675-54-3	Skin Irrit. 2; H315 Eye Irrit. 2A; H319 Skin Sens. 1; H317	$\geq 30 - < 50$
1,3-bis(2,3-epoxypropoxy)-2,2-dimethylpropane	17557-23-2	Skin Irrit. 2; H315 Skin Sens. 1; H317	$\geq 5 - < 10$
silicon dioxide, chemically prepared	112945-52-5		$\geq 1 - < 5$
bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight $\leq 700$ )	25068-38-6	Skin Irrit. 2; H315 Eye Irrit. 2A; H319 Skin Sens. 1; H317	$\geq 1 - < 5$

Actual concentration is withheld as a trade secret

## SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.  
Consult a physician.  
Show this material safety data sheet to the doctor in attend-



## ES-215 Resin (A)

Revision Date 05/17/2024

Print Date 05/17/2024

- ance.
- If inhaled : Move to fresh air.  
Consult a physician after significant exposure.
- In case of skin contact : Take off contaminated clothing and shoes immediately.  
Wash off with soap and plenty of water.  
If symptoms persist, call a physician.
- 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 : Clean mouth with water and drink afterwards plenty of water.  
Do not induce vomiting without medical advice.  
Do not give milk or alcoholic beverages.  
Never give anything by mouth to an unconscious person.  
Obtain medical attention.
- Most important symptoms and effects, both acute and delayed : Allergic reactions  
Excessive lachrymation  
Erythema  
Dermatitis  
irritant effects  
sensitizing effects  
Causes skin irritation.  
May cause an allergic skin reaction.  
Causes serious eye irritation.
- Notes to physician : Treat symptomatically.

---

### SECTION 5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media : 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.
- Special protective equipment for fire-fighters : In the event of fire, wear self-contained breathing apparatus.

---

### SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.  
Deny access to unprotected persons.



## ES-215 Resin (A)

Revision Date 05/17/2024

Print Date 05/17/2024

- Environmental precautions : Do not flush into surface water or sanitary sewer system. Local authorities should be advised if significant spillages cannot be contained.
- Methods and materials for containment and cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).  
Keep in suitable, closed containers for disposal.

### SECTION 7. HANDLING AND STORAGE

- Advice on protection against fire and explosion : Normal measures for preventive fire protection.
- Advice on safe handling : Avoid exceeding the given occupational exposure limits (see section 8).  
Do not get in eyes, on skin, or on clothing.  
For personal protection see section 8.  
Persons with a history of skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.  
Smoking, eating and drinking should be prohibited in the application area.  
Follow standard hygiene measures when handling chemical products.
- Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.  
Store in accordance with local regulations.

### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
silicon dioxide, chemically prepared	112945-52-5	TWA (Dust)	20 Million particles per cubic foot (Silica)	OSHA Z-3
		TWA (Dust)	80 mg/m <sup>3</sup> / %SiO <sub>2</sub> (Silica)	OSHA Z-3

The above constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

- Engineering measures** : Use of adequate ventilation should be sufficient to control



## ES-215 Resin (A)

Revision Date 05/17/2024

Print Date 05/17/2024

worker exposure to airborne contaminants. If the use of this product generates dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

### Personal protective equipment

- Respiratory protection : Use a properly fitted NIOSH approved air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.
- The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapor/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used.
- 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.
- Eye protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary.
- Skin and body protection : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.
- Hygiene measures : Avoid contact with skin, eyes and clothing.  
Wash hands before breaks and immediately after handling the product.  
Remove contaminated clothing and protective equipment before entering eating areas.  
Wash thoroughly after handling.

---

### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : paste
- Color : black
- Odor : amine-like
- Odor Threshold : No data available
- pH : not determined
- Melting point/range / Freezing point : No data available
- Boiling point/boiling range : No data available



## ES-215 Resin (A)

Revision Date 05/17/2024

Print Date 05/17/2024

Flash point	:	201 °F / 94 °C (Method: closed cup)
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapor pressure	:	0.01 hpa
Relative vapor density	:	No data available
Density	:	1.35 g/cm <sup>3</sup> (68 °F / 20 °C)
Solubility(ies)		
Water solubility	:	soluble
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Autoignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	> 20.5 mm <sup>2</sup> /s (104 °F / 40 °C)
Explosive properties	:	No data available
Oxidizing properties	:	No data available
Volatile organic compounds (VOC) content	:	1 g/l Part A + ES-215-1 Part B Fast Combined.  1 g/l Part A + ES-215-2 Part B Combined.  1 g/l Part A + ES-215-IHG Part B Combined.

---

### SECTION 10. STABILITY AND REACTIVITY



## ES-215 Resin (A)

Revision Date 05/17/2024

Print Date 05/17/2024

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	The product is chemically stable.
Possibility of hazardous reactions	:	Stable under recommended storage conditions.
Conditions to avoid	:	No data available
Incompatible materials	:	No data available
Hazardous decomposition products	:	No decomposition if stored and applied as directed.

### SECTION 11. TOXICOLOGICAL INFORMATION

#### Acute toxicity

Not classified due to lack of data.

#### Components:

#### **Oxirane, 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis-:**

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

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

#### **bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight <= 700):**

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

Acute dermal toxicity : LD50 Dermal (Rabbit): > 20,000 mg/kg

#### **Skin corrosion/irritation**

Causes skin irritation.

#### **Serious eye damage/eye irritation**

Causes serious eye irritation.

#### **Respiratory or skin sensitization**

#### **Skin sensitization**

May cause an allergic skin reaction.

#### **Respiratory sensitization**

Not classified due to lack of data.

#### **Germ cell mutagenicity**

Not classified due to lack of data.

#### **Carcinogenicity**

Not classified due to lack of data.



## ES-215 Resin (A)

Revision Date 05/17/2024

Print Date 05/17/2024

<b>IARC</b>	Group 2B: Possibly carcinogenic to humans Carbon black	1333-86-4
<b>OSHA</b>	Not applicable	
<b>NTP</b>	Not applicable	

### Reproductive toxicity

Not classified due to lack of data.

### STOT-single exposure

Not classified due to lack of data.

### STOT-repeated exposure

Not classified due to lack of data.

Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

### Aspiration toxicity

Not classified due to lack of data.

### Further information

#### Product:

Remarks : Carbon black (1333-86-4)  
Animal Toxicity:  
Rat, oral, duration 2 year  
Effect: no tumors  
  
Mouse, oral, duration 2 years  
Effect: no tumors  
Mouse, dermal, duration 18 months  
Effect: no skin tumors  
Rat, inhalation, duration 2 years  
Target organ: lungs  
Effect: inflammation, fibrosis, tumors  
Note: Tumors in the rat lung are considered to be related to the "particle overload phenomenon" rather than to a specific chemical effect of carbon black itself in the lung. These effects in rats have been reported in many studies on other poorly soluble inorganic particles and appear to be rat specific. Tumors have not been observed in other species (i.e., mouse and hamster) for carbon black or other poorly soluble particles under similar circumstances and study conditions. Mortality studies (human data): A study on carbon black production workers in the UK (Sorahan, 2001) found an increased risk of lung cancer in two of the five plant studied; however, the increase was not related to the dose of carbon black. Thus, the authors did not consider the increased risk in lung cancer to be due to carbon black exposure. A German study of carbon black workers at one plant (Morfeld, 2006; Buechte, 2006) found a similar increase in lung cancer risk but, like the Sorohan, 2001 (UK study) found no association





## ES-215 Resin (A)

Revision Date 05/17/2024

Print Date 05/17/2024

with carbon black exposure. A large US study of 18 plants showed a reduction in lung cancer risk in carbon black production workers (DEll, 2006). Based upon these studies, the February 2006 Working Group at the International Agency for Research on Cancer (IARC) concluded that the human evidence for carcinogenicity was inadequate (IARC, 2010). Since the IARC evaluation of carbon black, Sorahan and Harrington (2007) have re-analyzed the UK study data using an alternative exposure hypothesis and found a positive association with carbon black exposure in two of the five plants. The same exposure hypothesis was applied by Morfeld and McCunney (2009) to the German cohort; in contrast, they found no association between carbon black exposure and lung cancer risk and, thus, no support for the alternative exposure hypothesis used by Sorahan and Harrington. Overall, as a result of these detailed investigations, no causative link between carbon black exposure and cancer risk in humans has been demonstrated.

**IARC CANCER CLASSIFICATION:** In 2006 IARC re-affirmed its 1995 finding that there is "inadequate evidence" from human health studies to assess whether carbon black causes cancer in humans. IARC concluded that there is "sufficient evidence" in experimental animal studies for the carcinogenicity of carbon black. IARC's overall evaluation is that carbon black is "possibly carcinogenic to humans" (Group 2B)". This conclusion was based on IARC's guidelines, which generally require such a classification if one species exhibits carcinogenicity in two or more animal studies (IARC, 2010).

Solvent extracts of carbon black were used in one study of rats in which skin tumors were found after dermal application and several studies of mice in which sarcomas were found following subcutaneous injection. IARC concluded that there was "sufficient evidence" that carbon black extracts can cause cancer in animals (Group 2B).

**ICGIH CANCER CLASSIFICATION:** Confirmed Animal Carcinogen with Unknown Relevance to Humans (Category A3 Carcinogen).

**ASSESSMENT:** Applying the guidelines of self-classification under the Globally Harmonized System of Classification and Labeling of Chemicals, carbon black is not classified as a carcinogen. Lung tumors are induced in rats as a result of repeated exposure to inert, poorly soluble particles like carbon black and other poorly soluble particles. Rats tumors are a result of a secondary non-genotoxic mechanism that has questionable relevance for classification in humans. In support of this opinion, the CLP Guidance for Specific Target Organ Toxicity - Repeated Exposure (STOT-RE), cites lung overload under mechanisms not relevant to humans. Human health studies show that exposure to carbon black does not increase the risk to carcinogenicity.



## ES-215 Resin (A)

Revision Date 05/17/2024

Print Date 05/17/2024

---

### SECTION 12. ECOLOGICAL INFORMATION

#### Ecotoxicity

##### Components:

##### **Oxirane, 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis-:**

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 2 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): 1.8 mg/l  
aquatic invertebrates Exposure time: 48 h

##### **bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight <= 700):**

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 2 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): 1.8 mg/l  
aquatic invertebrates Exposure time: 48 h

#### Persistence and degradability

No data available

#### Bioaccumulative potential

No data available

#### Mobility in soil

No data available

#### Other adverse effects

##### Product:

Additional ecological information : Do not empty into drains; dispose of this material and its container in a safe way.  
Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.  
Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
May be harmful to the environment if released in large quantities.  
Water polluting material.

---

### SECTION 13. DISPOSAL CONSIDERATIONS

#### Disposal methods

Waste from residues : Disposal of this product, solutions and any by-products should



## ES-215 Resin (A)

Revision Date 05/17/2024

Print Date 05/17/2024

at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.

---

### SECTION 14. TRANSPORT INFORMATION

#### International Regulations

##### IATA-DGR

UN/ID No. : UN 3082  
Proper shipping name : Environmentally hazardous substance, liquid, n.o.s.  
(epoxy resin)  
Class : 9  
Packing group : III  
Labels : Miscellaneous  
Packing instruction (cargo aircraft) : 964  
Packing instruction (passenger aircraft) : 964  
Remarks : Transport in accordance with special regulation A 197

##### IMDG-Code

UN number : UN 3082  
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,  
N.O.S.  
(epoxy resin)  
Class : 9  
Packing group : III  
Labels : 9  
EmS Code : F-A, S-F  
Marine pollutant : yes  
Remarks : Transport in accordance with 2.10.2.7 of the IMDG-Code

#### Domestic regulation

##### 49 CFR

Not regulated as a dangerous good

##### 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

**TSCA list** : All chemical substances in this product are either listed as active on the TSCA Inventory or are in compliance with a TSCA Inventory exemption.





## ES-215 Resin (A)

Revision Date 05/17/2024

Print Date 05/17/2024

material, product or process. All of the information set forth herein is based on technical data regarding the identified product that Sika believes to be reliable as of the date hereof. Prior to each use of any Sika product, the user must always read and follow the warnings and instructions on the product's current Product Data Sheet, product label and Safety Data Sheet for each Sika product, which are available at web site and/or telephone number listed in Section 1 of this SDS.

SIKA MAKES NO WARRANTIES EXPRESS OR IMPLIED AND ASSUMES NO LIABILITY ARISING FROM THIS INFORMATION OR ITS USE. SIKA SHALL NOT BE LIABLE UNDER ANY LEGAL THEORY FOR SPECIAL OR CONSEQUENTIAL DAMAGES AND SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT OR ANY OTHER INTELLECTUAL PROPERTY RIGHTS HELD BY OTHERS.

All sales of Sika products are subject to its current terms and conditions of sale available at [www.sikausa.com](http://www.sikausa.com) or 201-933-8800.

Revision Date 05/17/2024

100000035793  
US / Z8

## Safety Data Sheet acc. to OSHA HCS

Printing date 03/03/2020

Reviewed on 03/03/2020

### 1 Identification

- **Product identifier**
- **Trade name:** ES215-IHG Hardener
- **Article number:** I215089-2
- **Application of the substance / the mixture** Epoxy hardener
- **Details of the supplier of the safety data sheet**  
Sika Advanced Resins, US  
EHS Department
- **Manufacturer/Supplier:**  
Supplier's Name: Sika Advanced Resins, US  
Headquarters:  
30800 Stephenson Hwy  
Madison Heights, MI 48071  
USA  
  
advancedresins.ehs@us.sika.com
- **Information department:** Product safety department
- **Emergency telephone number:**  
During normal opening times: +1 (248) 588-2270  
CHEMTREC 24-hour Emergency: +1 (800) 424-9300

### 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS08 Health hazard

Carc. 2 H351 Suspected of causing cancer.



GHS05 Corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

Acute Tox. 4 H312 Harmful in contact with skin.

Acute Tox. 4 H332 Harmful if inhaled.

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

(Contd. on page 2)

**Safety Data Sheet**  
 acc. to OSHA HCS

Printing date 03/03/2020

Reviewed on 03/03/2020

**Trade name: ES215-IHG Hardener**

(Contd. of page 1)

**Hazard pictograms**



GHS05 GHS07 GHS08

**Signal word Danger**

**Hazard-determining components of labeling:**

diethylmethylbenzenediamine  
 cyclohex-1,2-ylenediamine  
 m-phenylenebis(methylamine)

**Hazard statements**

Harmful in contact with skin or if inhaled.  
 Causes severe skin burns and eye damage.  
 Suspected of causing cancer.

**Precautionary statements**

Avoid breathing dust/fume/gas/mist/vapors/spray  
 Do not breathe dusts or mists.  
 Wear protective gloves/protective clothing/eye protection/face protection.  
 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
 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/doctor.  
 Specific treatment (see on this label).  
 Take off contaminated clothing and wash it before reuse.  
 Store locked up.  
 Dispose of contents/container in accordance with local/regional/national/international regulations.

**Classification system:**

**NFPA ratings (scale 0 - 4)**



Health = 3  
 Fire = 1  
 Reactivity = 0

**HMIS-ratings (scale 0 - 4)**



Health = \*3  
 Fire = 1  
 Reactivity = 0

**Other hazards**

**Results of PBT and vPvB assessment**

**PBT:** Not applicable.

(Contd. on page 3)

**Safety Data Sheet**  
 acc. to OSHA HCS

Printing date 03/03/2020

Reviewed on 03/03/2020

**Trade name: ES215-IHG Hardener**

· **vPvB:** Not applicable.

(Contd. of page 2)

**3 Composition/information on ingredients**

- **Chemical characterization:** Mixtures
- **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**

CAS: 68479-98-1 EINECS: 270-877-4	diethylmethylbenzenediamine	50-100%
CAS: 694-83-7 EINECS: 211-776-7	cyclohex-1,2-ylenediamine	20-50%
CAS: 1477-55-0 EINECS: 216-032-5	m-phenylenebis(methylamine)	≥3-<5%

**4 First-aid measures**

- **Description of first aid measures**
- **General information:**  
 Immediately remove any clothing soiled by the product.  
 Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:**  
 Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.  
 In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** Drink copious amounts of water and provide fresh air. Immediately call a doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
 No further relevant information available.

**5 Fire-fighting measures**

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture**  
 During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:**  
 Mouth respiratory protective device.

(Contd. on page 4)



**Safety Data Sheet**  
 acc. to OSHA HCS

Printing date 03/03/2020

Reviewed on 03/03/2020

**Trade name: ES215-IHG Hardener**

(Contd. of page 3)

*Wear self-contained respiratory protective device.*

**Additional information**

*Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.*

**6 Accidental release measures**

**Personal precautions, protective equipment and emergency procedures**

*Mount respiratory protective device.*

*Wear protective equipment. Keep unprotected persons away.*

**Environmental precautions:** *Do not allow to enter sewers/ surface or ground water.*

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

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

*Use neutralizing agent.*

*Dispose contaminated material as waste according to item 13.*

*Ensure adequate ventilation.*

**Reference to other sections**

*See Section 7 for information on safe handling.*

*See Section 8 for information on personal protection equipment.*

*See Section 13 for disposal information.*

**Protective Action Criteria for Chemicals**

**PAC-1:**

694-83-7	cyclohex-1,2-ylenediamine	2.1 mg/m <sup>3</sup>
----------	---------------------------	-----------------------

**PAC-2:**

694-83-7	cyclohex-1,2-ylenediamine	23 mg/m <sup>3</sup>
----------	---------------------------	----------------------

**PAC-3:**

694-83-7	cyclohex-1,2-ylenediamine	140 mg/m <sup>3</sup>
----------	---------------------------	-----------------------

**7 Handling and storage**

**Handling:**

**Precautions for safe handling**

*Ensure good ventilation/exhaustion at the workplace.*

*Open and handle receptacle with care.*

*Prevent formation of aerosols.*

**Information about protection against explosions and fires:** *Keep respiratory protective device available.*

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

**Storage:**

**Requirements to be met by storerooms and receptacles:** *No special requirements.*

**Information about storage in one common storage facility:** *Not required.*

**Further information about storage conditions:** *Keep receptacle tightly sealed.*

(Contd. on page 5)

## Safety Data Sheet acc. to OSHA HCS

Printing date 03/03/2020

Reviewed on 03/03/2020

**Trade name: ES215-IHG Hardener**

· **Specific end use(s)** No further relevant information available.

(Contd. of page 4)

### 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**  
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing.  
Wash hands before breaks and at the end of work.  
Store protective clothing separately.  
Avoid contact with the eyes.  
Avoid contact with the eyes and skin.
- **Breathing equipment:**  
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
- **Protection of hands:**



Protective gloves

- The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.  
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- **Material of gloves**  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
  - **Penetration time of glove material**  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

(Contd. on page 6)

**Safety Data Sheet**  
 acc. to OSHA HCS

Printing date 03/03/2020

Reviewed on 03/03/2020

**Trade name: ES215-IHG Hardener**

(Contd. of page 5)

· **Eye protection:**



Tightly sealed goggles

**9 Physical and chemical properties**

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

· **Form:** Liquid  
 · **Color:** Amber colored  
 · **Odor:** Amine-like  
 · **Odor threshold:** Not determined.

· **pH-value:** Not determined.

· **Change in condition**

· **Melting point/Melting range:** Undetermined.  
 · **Boiling point/Boiling range:** 188-192 °C (370.4-377.6 °F)

· **Flash point:** 105 °C (221 °F)

· **Flammability (solid, gaseous):** Not applicable.

· **Ignition temperature:** 420 °C (788 °F)

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Product is not selfigniting.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Explosion limits:**

· **Lower:** Not determined.  
 · **Upper:** Not determined.

· **Vapor pressure:** Not determined.

· **Density at 20 °C (68 °F):** 1.02 g/cm<sup>3</sup> (8.51 lbs/gal)

· **Relative density** Not determined.

· **Vapor density** Not determined.

· **Evaporation rate** Not determined.

· **Solubility in / Miscibility with**

· **Water:** Not miscible or difficult to mix.

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

(Contd. on page 7)

**Safety Data Sheet**  
 acc. to OSHA HCS

Printing date 03/03/2020

Reviewed on 03/03/2020

**Trade name: ES215-IHG Hardener**

(Contd. of page 6)

· <b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
· <b>Solvent content:</b>	
<b>VOC content:</b>	0.00 % 0.0 g/l / 0.00 lb/gal
· <b>Solids content:</b>	0.0 %
· <b>Other information</b>	No further relevant information available.

**10 Stability and reactivity**

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** Carbon monoxide and carbon dioxide

**11 Toxicological information**

- **Information on toxicological effects**
- **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**

**68479-98-1 diethylmethylbenzenediamine**

Oral	LD50	738 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rat)

- **Primary irritant effect:**
- **on the skin:** Caustic effect on skin and mucous membranes.
- **on the eye:**  
 Strong caustic effect.  
 Strong irritant with the danger of severe eye injury.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**  
 The product shows the following dangers according to internally approved calculation methods for preparations:  
 Harmful  
 Corrosive  
 Irritant  
 Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

(Contd. on page 8)

**Safety Data Sheet**  
 acc. to OSHA HCS

Printing date 03/03/2020

Reviewed on 03/03/2020

**Trade name: ES215-IHG Hardener**

(Contd. of page 7)

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

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

None of the ingredients is listed.

**12 Ecological information**

· **Toxicity**

· **Aquatic toxicity:** No further relevant information available.

· **Persistence and degradability** No further relevant information available.

· **Behavior in environmental systems:**

· **Bioaccumulative potential** No further relevant information available.

· **Mobility in soil** No further relevant information available.

· **Additional ecological information:**

· **General notes:**

Water hazard class 2 (Self-assessment): hazardous for water

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

Must not reach bodies of water or drainage ditch undiluted or unneutralized.

Danger to drinking water if even small quantities leak into the ground.

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **Other adverse effects** No further relevant information available.

**13 Disposal considerations**

· **Waste treatment methods**

· **Recommendation:**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packagings:**

· **Recommendation:** Disposal must be made according to official regulations.

**14 Transport information**

· **UN-Number**

· **DOT**

NA2735

(Contd. on page 9)






**Safety Data Sheet**  
 acc. to OSHA HCS

Printing date 03/03/2020

Reviewed on 03/03/2020

Trade name: ES215-IHG Hardener

(Contd. of page 8)

· <b>IMDG, IATA</b>	UN2735
· <b>UN proper shipping name</b> · <b>DOT</b> · <b>IMDG</b> · <b>IATA</b>	Amines, liquid, corrosive, n.o.s. (m-phenylenebis(methylamine), cyclohex-1,2-ylenediamine) AMINES, LIQUID, CORROSIVE, N.O.S. (m-phenylenebis(methylamine), cyclohex-1,2-ylenediamine), MARINE POLLUTANT AMINES, LIQUID, CORROSIVE, N.O.S. (m-phenylenebis(methylamine), cyclohex-1,2-ylenediamine)
· <b>Transport hazard class(es)</b> · <b>DOT</b>	
 	
· <b>Class</b> · <b>Label</b>	8 Corrosive substances 8
· <b>IMDG</b>	
 	
· <b>Class</b> · <b>Label</b>	8 Corrosive substances 8
· <b>IATA</b>	
	
· <b>Class</b> · <b>Label</b>	8 Corrosive substances 8
· <b>Packing group</b> · <b>DOT, IMDG, IATA</b>	III
· <b>Environmental hazards:</b> · <b>Marine pollutant:</b>	Product contains environmentally hazardous substances: diethylmethylbenzenediamine, Epoxy phenol novolac resin Yes Symbol (fish and tree)
· <b>Special precautions for user</b> · <b>Danger code (Kemler):</b> · <b>EMS Number:</b>	Warning: Corrosive substances 80 F-A,S-B

(Contd. on page 10)

**Safety Data Sheet**  
 acc. to OSHA HCS

Printing date 03/03/2020

Reviewed on 03/03/2020

**Trade name: ES215-IHG Hardener**

(Contd. of page 9)

· <b>Segregation groups</b>	Alkalis
· <b>Stowage Category</b>	A
· <b>Segregation Code</b>	SG35 Stow "separated from" SGG1-acids
· <b>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>DOT</b>	
· <b>Quantity limitations</b>	On passenger aircraft/rail: 5 L On cargo aircraft only: 60 L
· <b>Remarks:</b>	Special marking with the symbol (fish and tree).
· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	5L
· <b>Excepted quantities (EQ)</b>	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· <b>UN "Model Regulation":</b>	UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S. (M-PHENYLENEBIS(METHYLAMINE), CYCLOHEX-1,2-YLENEDIAMINE), 8, III, ENVIRONMENTALLY HAZARDOUS

**15 Regulatory information**

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

· <b>Section 355 (extremely hazardous substances):</b>	None of the ingredients is listed.
· <b>Section 313 (Specific toxic chemical listings):</b>	None of the ingredients is listed.
· <b>TSCA (Toxic Substances Control Act):</b>	All components have the value ACTIVE.
· <b>Chemicals regulated by TSCA Section 12(b)</b>	None of the ingredients is listed.
· <b>Chemical regulated by TSCA 5(a)(2)rule:</b>	None of the ingredients is listed.
· <b>Hazardous Air Pollutants</b>	None of the ingredients is listed.
· <b>Proposition 65</b>	
· <b>Chemicals known to cause cancer:</b>	None of the ingredients is listed.

(Contd. on page 11)

**Safety Data Sheet**  
 acc. to OSHA HCS

Printing date 03/03/2020

Reviewed on 03/03/2020

**Trade name: ES215-IHG Hardener**

(Contd. of page 10)

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

None of the ingredients is listed.

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

None of the ingredients is listed.

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

None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

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

None of the ingredients is listed.

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

None of the ingredients is listed.

· **Listed in CWC Regulations**

None of the ingredients is listed.

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

· **Hazard pictograms**



GHS05   GHS07   GHS08

· **Signal word** Danger

· **Hazard-determining components of labeling:**

diethylmethylbenzenediamine

cyclohex-1,2-ylenediamine

m-phenylenebis(methylamine)

· **Hazard statements**

Harmful in contact with skin or if inhaled.

Causes severe skin burns and eye damage.

Suspected of causing cancer.

· **Precautionary statements**

Do not breathe dusts or mists.

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

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

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

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/doctor.

Specific treatment (see on this label).

(Contd. on page 12)



## Safety Data Sheet acc. to OSHA HCS

Printing date 03/03/2020

Reviewed on 03/03/2020

**Trade name: ES215-IHG Hardener**

(Contd. of page 11)

Take off contaminated clothing and wash it before reuse.

Store locked up.

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

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

### 16 Other information

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

· **Date of preparation / last revision** 03/03/2020 / 5

· **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Acute Tox. 4: Acute toxicity – Category 4

Skin Corr. 1B: Skin corrosion/irritation – Category 1B

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

Carc. 2: Carcinogenicity – Category 2

· **\* Data compared to the previous version altered.**