



1. Identification

Product name : Sika® Armatec® 10 ZR

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

2. Hazards identification

GHS Classification

Flammable liquids, Category 3	H226: Flammable liquid and vapor.
Skin irritation, Category 2	H315: Causes skin irritation.
Eye irritation, Category 2A	H319: Causes serious eye irritation.
Respiratory sensitization, Category 1	H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin sensitization, Category 1	H317: May cause an allergic skin reaction.
Carcinogenicity, Category 2	H351: Suspected of causing cancer.
Specific target organ systemic toxicity - single exposure, Category 3, Respiratory system	H335: May cause respiratory irritation.
Specific target organ systemic toxicity - repeated exposure, Category 2 (Inhalation)	H373: May cause damage to organs through prolonged or repeated exposure if inhaled.

GHS label elements

Hazard pictograms :

Signal Word : Danger

Hazard Statements : H226 Flammable liquid and vapor.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.



H319 Causes serious eye irritation.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335 May cause respiratory irritation.
H351 Suspected of causing cancer.
H373 May cause damage to organs through prolonged or repeated exposure if inhaled.

Precautionary Statements

: **Prevention:**

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P260 Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing must not be allowed out of the workplace.
P280 Wear protective gloves/ eye protection/ face protection.
P281 Use personal protective equipment as required.
P285 In case of inadequate ventilation wear respiratory protection.

Response:

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before reuse.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Storage:

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

Disposal:

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



See Section 11 for more detailed information on health effects and symptoms.
 There are no hazards not otherwise classified that have been identified during the classification process.
 There are no ingredients with unknown acute toxicity used in a mixture at a concentration $\geq 1\%$.

3. Composition/information on ingredients

Hazardous ingredients

Chemical name	CAS-No.	Concentration (%)
4,4'-methylenediphenyl diisocyanate	101-68-8	$\geq 5 - < 10\%$
Diphenylmethanediisocyanate, isomeres and homologues	9016-87-9	$\geq 5 - < 10\%$
mesitylene	108-67-8	$\geq 2 - < 5\%$
1,2,4-trimethylbenzene	95-63-6	$\geq 2 - < 5\%$
cumene	98-82-8	$\geq 0.1 - < 1\%$
p-toluenesulphonyl isocyanate	4083-64-1	$\geq 0.1 - < 1\%$
methylenediphenyl diisocyanate	26447-40-5	$\geq 0.1 - < 1\%$

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.

4. First aid measures

- 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 : irritant effects
sensitizing effects

Asthmatic appearance
Cough
Respiratory disorder
Allergic reactions
Excessive lachrymation
Erythema
Dermatitis



See Section 11 for more detailed information on health effects and symptoms.

Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye irritation.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause respiratory irritation.
Suspected of causing cancer.
May cause damage to organs through prolonged or repeated exposure if inhaled.

Protection of first-aiders : Move out of dangerous area.
Consult a physician.
Show this material safety data sheet to the doctor in attendance.

Notes to physician : Treat symptomatically.

5. Fire-fighting measures

- Suitable extinguishing media : Alcohol-resistant foam
Carbon dioxide (CO₂)
Dry chemical
- Unsuitable extinguishing media : Water
High volume water jet
- Specific hazards during fire fighting : Do not use a solid water stream as it may scatter and spread fire.
- Specific extinguishing methods : Use water spray to cool unopened containers.
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.

6. Accidental release measures

- Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
Remove all sources of ignition.
Deny access to unprotected persons.
Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.
- Environmental precautions : Prevent product from entering drains.
If the product contaminates rivers and lakes or drains inform respective authorities.
Local authorities should be advised if significant spillages



cannot be contained.

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

7. Handling and storage

Advice on safe handling : Avoid formation of aerosol.
 Do not breathe vapors or spray mist.
 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.
 Take precautionary measures against static discharge.
 Open drum carefully as content may be under pressure.
 Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors).
 Follow standard hygiene measures when handling chemical products.

Conditions for safe storage : Store in original container.
 Keep in a well-ventilated place.
 Containers which are opened must be carefully resealed and kept upright to prevent leakage.
 Observe label precautions.
 Store in accordance with local regulations.

Materials to avoid : No data available

8. Exposure controls/personal protection

Component	CAS-No.	Basis **	Value	Exposure limit(s)* / Form of exposure
Talc	14807-96-6	OSHA P0	TWA	2 mg/m3 Respirable fraction
		ACGIH	TWA	0.1 fibres per cubic centimeter
		ACGIH	TWA	2 mg/m3 Respirable fraction
		OSHA Z-3	TWA	20 Million particles per cubic foot



				Dust
		OSHA P0	TWA	2 mg/m3 respirable dust fraction
C.I. pigment brown 24	68186-90-3	OSHA Z-1	TWA	0.5 mg/m3
		ACGIH	TWA	0.5 mg/m3
		OSHA P0	TWA	0.5 mg/m3
4,4'-methylenediphenyl diisocyanate	101-68-8	ACGIH	TWA	0.005 ppm
		OSHA Z-1	C	0.02 ppm 0.2 mg/m3
		OSHA P0	C	0.02 ppm 0.2 mg/m3
mesitylene	108-67-8	ACGIH	TWA	25 ppm
		OSHA P0	TWA	25 ppm 125 mg/m3
1,2,4-trimethylbenzene	95-63-6	OSHA P0	TWA	25 ppm 125 mg/m3
cumene	98-82-8	ACGIH	TWA	50 ppm
		OSHA Z-1	TWA	50 ppm 245 mg/m3
		OSHA P0	TWA	50 ppm 245 mg/m3
methylenediphenyl diisocyanate	26447-40-5	OSHA Z-1	C	0.02 ppm 0.2 mg/m3
		OSHA P0	C	0.02 ppm 0.2 mg/m3

Engineering measures

: Use of adequate ventilation should be sufficient to control 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.
The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive 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
Remarks : 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 respiratory and skin/eye protection only after vapors have been cleared from the area.
Remove contaminated clothing and protective equipment before entering eating areas.
Wash thoroughly after handling.

9. Physical and chemical properties

- Appearance : liquid
- Color : opaque
- Odor : slight
- Odor Threshold : No data available
- Flash point : ca. 84 °F (29 °C)
- Ignition temperature : No data available
- Decomposition temperature : No data available
- Lower explosion limit (Vol%) : No data available
- Upper explosion limit (Vol%) : No data available
- Flammability (solid, gas) : No data available



Oxidizing properties	:	No data available
pH	:	No data available
Melting point/range / Freezing point	:	No data available
Boiling point/boiling range	:	No data available
Vapor pressure	:	0.01 mmHg (0.01 hpa)
Density	:	ca.2.537 g/cm3 at 68 °F (20 °C)
Water solubility	:	Note: insoluble
Partition coefficient: n- octanol/water	:	No data available
Viscosity, dynamic	:	ca.2,200 Pa.s at 68 °F (20 °C)
Viscosity, kinematic	:	> 20.5 mm2/s at 104 °F (40 °C)
Relative vapor density	:	No data available
Evaporation rate	:	No data available
Burning rate	:	No data available
Volatile organic compounds (VOC) content	:	340 g/l

10. Stability and reactivity

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. Vapors may form explosive mixture with air.
Conditions to avoid	:	Heat, flames and sparks.
Incompatible materials	:	No data available

11. Toxicological information

Acute toxicity

Not classified based on available information.

Components:

4,4'-methylenediphenyl diisocyanate:



Acute inhalation toxicity : Acute toxicity estimate: 1.5 mg/l
Test atmosphere: dust/mist
Method: Expert judgment

Diphenylmethanediisocyanate, isomeres and homologues:

Acute oral toxicity : LD50 Oral (Rat): > 10,000 mg/kg

Acute inhalation toxicity : Acute toxicity estimate: 1.5 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: Expert judgment
Assessment: The component/mixture is moderately toxic after short term inhalation.

Acute dermal toxicity : LD50 Dermal (Rabbit): > 9,400 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: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Germ cell mutagenicity

Not classified based on available information.

Reproductive toxicity

Not classified based on available information.

STOT-single exposure

May cause respiratory irritation.

STOT-repeated exposure

May cause damage to organs through prolonged or repeated exposure if inhaled.

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

Aspiration toxicity

Not classified based on available information.

Carcinogenicity

Suspected of causing cancer.

IARC Group 2B: Possibly carcinogenic to humans

NTP cumene 98-82-8
Reasonably anticipated to be a human carcinogen

cumene 98-82-8

12. Ecological information

Other 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.

Component:

Diphenylmethanediisocyanate, isomers and homologues 9016-87-9

Toxicity to fish:
LC50
Species: Brachydanio rerio (zebrafish)
Dose: > 1,000 mg/l
Exposure time: 96 h

Toxicity to algae:
EC50
Species: Desmodesmus subspicatus (green algae)
Dose: > 1,640 mg/l
Exposure time: 72 h

Toxicity to daphnia and other aquatic invertebrates Chronic toxicity:

13. Disposal considerations

Disposal methods

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

14. Transport information

DOT

UN number	1263
Description of the goods	Paint
Class	3
Packing group	III
Labels	3
Emergency Response Guidebook Number	128

IATA

UN number	1263
Description of the goods	Paint
Class	3
Packing group	III
Labels	3
Packing instruction (cargo aircraft)	366
Packing instruction (passenger aircraft)	355
Packing instruction	Y344



4,4'-methylenediphenyl diisocyanate 101-68-8
 Diphenylmethanediisocyanate, isomeres and homologues 9016-87-9
 1,2,4-trimethylbenzene 95-63-6

Clean Air Act

Ozone-Depletion Potential

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61):

C.I. pigment brown 24 68186-90-3
 4,4'-methylenediphenyl diisocyanate 101-68-8

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

California Prop 65

WARNING: Cancer – www.P65Warnings.ca.gov

16. Other information

HMIS Classification

Health	*	3
Flammability		3
Physical Hazard		0
Personal Protection		X

Caution: HMIS® rating is based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® rating is not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® rating is to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). Please note HMIS® attempts to convey full health warning information to all employees.

Notes to Reader

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