



# SAFETY DATA SHEET

## 1. Identification

**Product identifier** DUNAPOL™ AD 3206 V3

### Other means of identification

**SDS number** Version 1

**Product code** 202115

**Recommended use** Industrial use.

**Recommended restrictions** None known.

### Manufacturer/Importer/Supplier/Distributor information

#### Manufacturer/Supplier

**Company name** DUNA-USA Inc.  
**Address** 4210 FM 1405 Baytown, TX, 77523 United States  
**Telephone number** 281-383-3862  
**e-mail** franco.sala@dunagroup.com  
**Contact person** Franco Sala  
**Emergency telephone number** 800-424-9300

## 2. Hazard(s) identification

**Physical hazards** Not classified.

<b>Health hazards</b>	Acute toxicity, inhalation	Category 4
	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2A
	Sensitization, respiratory	Category 1
	Sensitization, skin	Category 1
	Carcinogenicity	Category 2
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
	Specific target organ toxicity, repeated exposure	Category 2 (respiratory system)

**OSHA defined hazards** Not classified.

### Label elements



**Signal word** Danger

**Hazard statement** Harmful if inhaled. Causes skin irritation. Causes serious eye irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction. Suspected of causing cancer. May cause respiratory irritation. May cause damage to organs (respiratory system) through prolonged or repeated exposure by inhalation.

### Precautionary statement

**Prevention** Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe mist or vapor. Wear protective gloves/protective clothing/eye protection/face protection. In case of inadequate ventilation wear respiratory protection. Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Use only outdoors or in a well-ventilated area.

**Response** If exposed or concerned: Get medical advice/attention. If on skin: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a poison center/doctor.

<b>Storage</b>	Store in a well-ventilated place. Keep container tightly closed. Store locked up.
<b>Disposal</b>	Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Hazard(s) not otherwise classified (HNOC)</b>	None known.

### 3. Composition/information on ingredients

#### Mixtures

Chemical name	CAS number	%
Polymethylene polyphenyl isocyanate	9016-87-9	60-100
Methylene diphenyl diisocyanate	101-68-8	>1
O-(p-isocyanatobenzyl)phenyl isocyanate	5873-54-1	>1

**Composition comments** All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

### 4. First-aid measures

<b>Inhalation</b>	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Get medical attention immediately.
<b>Skin contact</b>	Immediately flush skin with plenty of water. Take off contaminated clothing and wash before reuse. In case of rashes, wounds or other skin disorders: Seek medical attention and bring along these instructions.
<b>Eye contact</b>	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Get medical attention.
<b>Ingestion</b>	Immediately rinse mouth and drink plenty of water. Keep person under observation. If person becomes uncomfortable take to hospital along with these instructions.
<b>Most important symptoms/effects, acute and delayed</b>	Irritating to eyes, respiratory system and skin. Sensitization. Be aware that symptoms of lung edema (shortness of breath) may develop up to 24 hours after exposure.
<b>Indication of immediate medical attention and special treatment needed</b>	Treat symptomatically. Symptoms may be delayed.
<b>General information</b>	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Foam. Dry powder. Carbon dioxide (CO <sub>2</sub> ).
<b>Unsuitable extinguishing media</b>	Water jet.
<b>Specific hazards arising from the chemical</b>	During fire, gases hazardous to health may be formed.
<b>Special protective equipment and precautions for firefighters</b>	Self-contained breathing apparatus and full protective clothing must be worn in case of fire. Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace.
<b>Fire fighting equipment/instructions</b>	Cool containers exposed to flames with water until well after the fire is out. Use standard firefighting procedures and consider the hazards of other involved materials.
<b>General fire hazards</b>	This product is not flammable.

### 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Ensure adequate ventilation. Avoid inhalation of vapors and contact with skin and eyes. Wear appropriate personal protective equipment.
<b>Methods and materials for containment and cleaning up</b>	Absorb spillage with non-combustible, absorbent material. Collect in marked containers and deliver to approved depot. Following product recovery, flush area with water. For waste disposal, see Section 13 of the SDS.

**Environmental precautions** Avoid release to the environment.

## 7. Handling and storage

### Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Should be handled in closed systems, if possible. Persons susceptible for allergic reactions should not handle this product. Mechanical ventilation or local exhaust ventilation is required. Do not get in eyes, on skin, on clothing. Do not breathe mist or vapor. Observe good industrial hygiene practices. Good personal hygiene is necessary. Wash hands and contaminated areas with water and soap before leaving the work site. Work practice should minimize contact. Change contaminated clothing. Keep the workplace clean. Technical aids: Use disposable equipment (rags, brushes, spatulas, putty knives, etc.), if possible. Wear appropriate personal protective equipment. See Section 8 of the SDS for Personal Protective Equipment.

### Conditions for safe storage, including any incompatibilities

Store locked up. Store in a cool and well-ventilated place. Keep container tightly closed.

## 8. Exposure controls/personal protection

### Occupational exposure limits

#### US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Methylene diphenyl diisocyanate (CAS 101-68-8)	Ceiling	0.2 mg/m <sup>3</sup>
Polymethylene polyphenyl isocyanate (CAS 9016-87-9)	Ceiling	0.02 ppm
		0.2 mg/m <sup>3</sup>
		0.02 ppm

#### US. ACGIH Threshold Limit Values

Components	Type	Value
Methylene diphenyl diisocyanate (CAS 101-68-8)	TWA	0.005 ppm
Polymethylene polyphenyl isocyanate (CAS 9016-87-9)	TWA	0.005 ppm

#### US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Methylene diphenyl diisocyanate (CAS 101-68-8)	Ceiling	0.2 mg/m <sup>3</sup>
		0.02 ppm
		0.05 mg/m <sup>3</sup>
Polymethylene polyphenyl isocyanate (CAS 9016-87-9)	Ceiling	0.005 ppm
		0.2 mg/m <sup>3</sup>
		0.02 ppm
	TWA	0.05 mg/m <sup>3</sup>
		0.005 ppm

### Biological limit values

No biological exposure limits noted for the ingredient(s).

### Appropriate engineering controls

Mix and prepare in a place with efficient exhaust ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Observe Occupational Exposure Limits and minimize the risk of inhalation of vapors. Provide easy access to water supply and eye wash facilities.

### Individual protection measures, such as personal protective equipment

#### Eye/face protection

Wear goggles/face shield.

#### Skin protection

##### Hand protection

Use disposable gloves protecting against isocyanates along with cotton gloves closest to the skin. Be aware that the liquid may penetrate the gloves. Frequent change is advisable.

<b>Other</b>	Protection suit must be worn.
<b>Respiratory protection</b>	Self-contained breathing apparatus. Wear NIOSH approved respirator. If respirators are used, a program should be instituted to assure compliance with OSHA 29 CFR 1910.134.
<b>Thermal hazards</b>	Wear appropriate thermal protective clothing, when necessary.
<b>General hygiene considerations</b>	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Observe any medical surveillance requirements.

## 9. Physical and chemical properties

### Appearance

<b>Physical state</b>	Liquid.
<b>Form</b>	Liquid.
<b>Color</b>	Amber.
<b>Odor</b>	Slight.
<b>Odor threshold</b>	Not available.
<b>pH</b>	Not applicable.
<b>Melting point/freezing point</b>	Not available.
<b>Initial boiling point and boiling range</b>	Not available.
<b>Flash point</b>	Not available.
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Not applicable.

### Upper/lower flammability or explosive limits

<b>Flammability limit - lower (%)</b>	Not available.
<b>Flammability limit - upper (%)</b>	Not available.
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	Not available.

<b>Vapor pressure</b>	Not available.
<b>Vapor density</b>	Not available.
<b>Relative density</b>	1.1 (25 °C)
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	Not available.
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	3750 cP (25 °C)

## 10. Stability and reactivity

<b>Reactivity</b>	Stable at normal conditions.
<b>Chemical stability</b>	The product is stable under normal conditions of use, storage and transport.
<b>Possibility of hazardous reactions</b>	Will not occur.
<b>Conditions to avoid</b>	High temperatures.
<b>Incompatible materials</b>	Oxidizing agents. Water.
<b>Hazardous decomposition products</b>	Carbon oxides. Nitrogen oxides. Cyanides.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	May cause irritation to the respiratory system. Harmful if inhaled. May cause lung damage. Symptoms can be delayed.
<b>Skin contact</b>	Causes skin irritation.
<b>Eye contact</b>	Causes serious eye irritation.
<b>Ingestion</b>	Ingestion may cause irritation and malaise.

**Symptoms related to the physical, chemical and toxicological characteristics** Irritating to eyes, respiratory system and skin. Sensitization. Be aware that symptoms of lung edema (shortness of breath) may develop up to 24 hours after exposure.

### Information on toxicological effects

**Acute toxicity** Harmful if inhaled.

Components	Species	Test Results
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Methylene diphenyl diisocyanate (CAS 101-68-8)

#### Acute

##### Inhalation

LC50	Rat	> 2.24 mg/l, 1 Hours
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**Skin corrosion/irritation** Causes skin irritation.

**Serious eye damage/eye irritation** Causes serious eye irritation.

### Respiratory or skin sensitization

**Respiratory sensitization** May cause allergy or asthma symptoms or breathing difficulties if inhaled.

**Skin sensitization** May cause an allergic skin reaction.

**Germ cell mutagenicity** No data available.

**Carcinogenicity** Suspected of causing cancer.

#### IARC Monographs. Overall Evaluation of Carcinogenicity

Methylene diphenyl diisocyanate (CAS 101-68-8) 3 Not classifiable as to carcinogenicity to humans.

O-(p-isocyanatobenzyl)phenyl Isocyanate (CAS 5873-54-1) 3 Not classifiable as to carcinogenicity to humans.

Polymethylene polyphenyl isocyanate (CAS 9016-87-9) 3 Not classifiable as to carcinogenicity to humans.

#### OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

**Reproductive toxicity** No data available.

**Specific target organ toxicity - single exposure** May cause respiratory tract irritation.

**Specific target organ toxicity - repeated exposure** May cause damage to organs (respiratory system) through prolonged or repeated exposure by inhalation.

**Aspiration hazard** No data available.

**Chronic effects** May cause damage to organs through prolonged or repeated exposure by inhalation.

**Further information** None known.

## 12. Ecological information

**Ecotoxicity** The environmental hazard of the product is considered to be limited.

**Persistence and degradability** The product reacts with water to form a solid insoluble reaction product which is non-degradable, according to information available.

**Bioaccumulative potential** No data available.

**Mobility in soil** The product is expected to be slowly biodegradable.

**Other adverse effects** No data available.

## 13. Disposal considerations

**Disposal instructions** Dispose of in accordance with local regulations.

**Local disposal regulations** Dispose of in accordance with local regulations.

**Hazardous waste code** Not regulated.

**Waste from residues / unused products** Dispose of in accordance with local regulations. Disposal recommendations are based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

**Contaminated packaging** Since emptied containers retain product residue, follow label warnings even after container is emptied.

## 14. Transport information

### DOT

Not regulated as dangerous goods.

### IATA

Not regulated as dangerous goods.

### IMDG

Not regulated as dangerous goods.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not applicable.

## 15. Regulatory information

**US federal regulations** This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

### TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

### OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

### CERCLA Hazardous Substance List (40 CFR 302.4)

Methylene diphenyl diisocyanate (CAS 101-68-8) LISTED

Polymethylene polyphenyl isocyanate (CAS 9016-87-9) LISTED

### Superfund Amendments and Reauthorization Act of 1986 (SARA)

**Hazard categories** Immediate Hazard - Yes  
Delayed Hazard - Yes  
Fire Hazard - No  
Pressure Hazard - No  
Reactivity Hazard - No

### SARA 302 Extremely hazardous substance

Not listed.

**SARA 311/312 Hazardous chemical** Yes

### SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Polymethylene polyphenyl isocyanate	9016-87-9	60-100
Methylene diphenyl diisocyanate	101-68-8	>1

### Other federal regulations

#### Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Methylene diphenyl diisocyanate (CAS 101-68-8)

Polymethylene polyphenyl isocyanate (CAS 9016-87-9)

#### Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

**Safe Drinking Water Act (SDWA)** Not regulated.

### US state regulations

#### US. Massachusetts RTK - Substance List

Methylene diphenyl diisocyanate (CAS 101-68-8)

Polymethylene polyphenyl isocyanate (CAS 9016-87-9)

#### US. New Jersey Worker and Community Right-to-Know Act

Methylene diphenyl diisocyanate (CAS 101-68-8)

O-(p-isocyanatobenzyl)phenyl Isocyanate (CAS 5873-54-1)

Polymethylene polyphenyl isocyanate (CAS 9016-87-9)

**US. Pennsylvania Worker and Community Right-to-Know Law**

Methylene diphenyl diisocyanate (CAS 101-68-8)  
 Polymethylene polyphenyl isocyanate (CAS 9016-87-9)

**US. Rhode Island RTK**

Methylene diphenyl diisocyanate (CAS 101-68-8)  
 Polymethylene polyphenyl isocyanate (CAS 9016-87-9)

**US. California Proposition 65**

Not Listed.

**International Inventories**

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

**16. Other information, including date of preparation or last revision**

**Issue date** 18-March-2015

**Revision date** -

**Version #** 01

**Further information** HMIS® is a registered trade and service mark of the NPCA.  
 Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

**HMIS® ratings** Health: 2\*  
 Flammability: 1  
 Physical hazard: 0

**NFPA ratings**



**List of abbreviations**

LC50: Lethal Concentration, 50%.

**Disclaimer**

This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.