

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations Issue date: 06/15/2020 Version: 1.0

### **SECTION 1: Identification**

1.1.	Identification		
Product	form	:	Mixture
Product	name	:	SURFACE BONDER ULTRA
Product	code	:	Durham
1.2.	Recommended use and restrictions	or	) use
Recomn	nended use	:	Adhesives, sealants

Restrictions on use

Adhesives, sealants

: No additional information available

#### 1.3. Supplier

Integra Adhesives 600 Ellis Road Durham, NC 27703 - USA T 1-919-598-2400 www.integra-adhesives.com

#### 1.4. **Emergency telephone number**

Emergency number

: Transportation and Medical: CHEMTEL Tel. 800-255-3924; +1 813-248-0585 (International)

H317 May cause an allergic skin reaction.

H334 May cause allergy or asthma symptoms or breathing difficulties

#### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

#### **GHS** classification

Acute toxicity (inhalation:dust,mist) Category 4 Respiratory sensitisation, Category 1

Skin sensitisation, Category 1 Specific target organ toxicity - Single exposure, Category 3, Respiratory tract irritation

Full text of H statements : see section 16

#### GHS Label elements, including precautionary statements 2.2.

#### **GHS-US** labelling

Hazard pictograms (GHS)

Signal word (GHS) Hazard statements (GHS)

Precautionary statements (GHS)





410 Pike Road • Huntingdon Valley, PA 19006

- : Danger
- H317 May cause an allergic skin reaction.
- H332 Harmful if inhaled.
- H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- H335 May cause respiratory irritation.
- P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
- 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/protective clothing/eye protection/face protection.
- P284 [In case of inadequate ventilation] wear respiratory protection.
- P302+P352 If on skin: Wash with plenty of water.
- P304+P340 If inhaled: Remove person to fresh air and keep comfortable for breathing.

P304+P341 - If inhaled: If breathing is difficult, remove person to fresh air and keep

- comfortable for breathing.
- P312 Call a poison center/doctor if you feel unwell
- P321 Specific treatment (see supplemental first aid instruction on this label).
- P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
- P342+P311 If experiencing respiratory symptoms: Call a poison center or doctor.
- P363 Wash contaminated clothing before reuse.
- P403+P233 Store in a well-ventilated place. Keep container tightly closed.
- P405 Store locked up.
- P501 Dispose of contents/container to hazardous or special waste collection point, in

H335 May cause respiratory irritation.

H332 Harmful if inhaled.

if inhaled

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accordance with local, regional, national and/or international regulation.

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

No additional information available

#### 2.4. Unknown acute toxicity (GHS\_US)

0.14% of the mixture consists of ingredient(s) of unknown acute toxicity (Oral) 0.14% of the mixture consists of ingredient(s) of unknown acute toxicity (Dermal) 0.14% of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (Dust/Mist))

#### **SECTION 3: Composition/information on ingredients**

#### 3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS classification
Aliphatic polyisocyanate	(CAS-No.) 28182-81-2	60 - 70	Acute Tox. 4 (Inhalation), H332 Skin Sens. 1, H317 STOT SE 3, H335
tetraethyl N, N'-(methylenedicyclohexane-4,1-diyl)bis-DL-aspartate	(CAS-No.) 136210-30-5	10 - 20	Skin Sens. 1, H317 Aquatic Chronic 3, H412
Diethyl fumarate	(CAS-No.) 623-91-6	0.5 - <1	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Skin Sens. 1, H317 STOT RE 2, H373
Aspartic Ester	(CAS-No.) 152637-10-0	0.5 - 1	Skin Sens. 1B, H317 Aquatic Chronic 3, H412
Hexamethylene diisocyanate	(CAS-No.) 822-06-0	0.1 - 0.2	Acute Tox. 3 (Inhalation), H331 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 Skin Sens. 1, H317 STOT SE 3, H335

\*Chemical name, CAS number and/or exact concentration have been withheld as a trade secret

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures	
4.1. Description of first aid measures	
First-aid measures general	: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after inhalation	: If inhaled and if breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.
First-aid measures after skin contact	: Take off immediately all contaminated clothing. Wash skin thoroughly with mild soap and water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical advice/attention.
First-aid measures after eye contact	: Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention. Call a POISON CENTER/doctor if you feel unwell.
4.2. Most important symptoms and effec	ts (acute and delayed)
Symptoms/effects after inhalation	<ul> <li>May cause respiratory irritation. Cough. Harmful if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled.</li> </ul>
Symptoms/effects after skin contact	: May cause an allergic skin reaction. Redness. May cause irritation to skin.
Symptoms/effects after eye contact	: May cause slight irritation.
Symptoms/effects after ingestion	: May cause a light irritation of the linings of the mouth, throat, and gastrointestinal tract.

#### 4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

# SECTION 5: Fire-fighting measures 5.1. Suitable (and unsuitable) extinguishing media Extension of the sector of the sec

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Fire hazard	: Burning produces irritating, toxic and noxious fumes.
Explosion hazard	: Product is not explosive.
Reactivity	: No dangerous reactions known.
5.3. Special protective equipm	ent and precautions for fire-fighters
Firefighting instructions	: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.
Protection during firefighting	<ul> <li>Do not enter fire area without proper protective equipment, including respiratory protection.</li> <li>Wear a self contained breathing apparatus. Wear fire/flame resistant/retardant clothing.</li> </ul>

6.1.	Personal precautions, protective eq	Jip	ment and emergency procedures
General	measures	:	Do not breathe aerosol. Do not breathe vapour. Do not get in eyes, on skin, or on clothing. Use personal protective equipment as required. Use only non-sparking tools.
6.1.1.	For non-emergency personnel		
Protectiv	e equipment	:	Refer to section 8.2.
Emerger	cy procedures	:	Evacuate unnecessary personnel.
6.1.2.	For emergency responders		
Protectiv	e equipment	:	Refer to section 8.2.
Emerger	cy procedures	:	Ventilate area.
6.2.	Environmental precautions		
Prevent	entry to sewers and public waters. Avoid	re	lease to the environment.
6.3.	Methods and material for containme	nt	and cleaning up
For conta	ainment	:	Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.
Methods	for cleaning up	:	Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect

spillage. Store away from other materials.

#### 6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage		
7.1. Precautions for safe handling		
Precautions for safe handling	Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Do not breathe aerosol. Use only outdoors or in a well- ventilated area. Do not breathe vapours. Do not get in eyes, on skin, or on clothing. Wear personal protective equipment.	
Hygiene measures	: Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.	
7.2. Conditions for safe storage, in	ncluding any incompatibilities	
Storage conditions	: Keep only in the original container. Keep in fireproof place. Keep container tightly closed.	
Incompatible products	: Strong acids. Strong oxidizers.	
Incompatible materials	: Sources of ignition. Direct sunlight. Heat sources.	
Storage area	: Store in dry, cool, well-ventilated area.	

#### **SECTION 8: Exposure controls/personal protection**

#### 8.1. Control parameters

te (28182-81-2)	
vanate (822-06-0)	
Local name	Hexamethylene diisocyanate
ACGIH TWA (mg/m <sup>3</sup> )	0.034 mg/m <sup>3</sup>
ACGIH TWA (ppm)	0.005 ppm (IFV - Inhalable fraction and vapor)
	anate (822-06-0) Local name ACGIH TWA (mg/m³)

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Hexamethylene diisocyanate (822-06-0)			
ACGIH	Remark (ACGIH)	TLV® Basis: URT irr; resp sens. Notations: BEI	
ACGIH	Regulatory reference	ACGIH 2020	
NIOSH	NIOSH REL (TWA) (mg/m <sup>3</sup> )	0.035 mg/m³	
NIOSH	NIOSH REL (TWA) (ppm)	0.005 ppm	
NIOSH	NIOSH REL (ceiling) (mg/m <sup>3</sup> )	0.14 mg/m <sup>3</sup>	
NIOSH	NIOSH REL (ceiling) (ppm)	0.02 ppm	
tetraethyl N, N'-(methylenedicyclohexane-4,1-diyl)bis-DL-aspartate (136210-30-5)			
Not applicable			
Diethyl fumarate (623-91-	Diethyl fumarate (623-91-6)		
Not applicable			
Aspartic Ester (152637-1	0-0)		
Not applicable			

#### 8.2. Appropriate engineering controls

Appropriate engineering controls

: Avoid creating mist or spray. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Avoid splashing. Ensure good ventilation of the work station. Provide local exhaust or general room ventilation.

Environmental exposure controls

: Prevent contaminated water run-off. Prevent leakage or spillage.

#### 8.3. Individual protection measures/Personal protective equipment

#### Personal protective equipment:

Avoid all unnecessary exposure.

#### Hand protection:

Wear suitable gloves resistant to chemical penetration. nitrile rubber gloves. natural rubber gloves

#### Eye protection:

Safety glasses

#### Skin and body protection:

Wear suitable protective clothing

#### **Respiratory protection:**

In case of inadequate ventilation wear respiratory protection. Wear a self contained breathing apparatus

#### Other information:

Do not eat, drink or smoke during use.

#### **SECTION 9: Physical and chemical properties**

#### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Viscous liquid.
Colour	: Off-white
Odour	: No data available
Odour threshold	: No data available
рН	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Flammability (solid, gas)	: No data available

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Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Solubility	: No data available
Log Pow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive limits	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available

#### 9.2. Other information

No additional information available

#### **SECTION 10: Stability and reactivity**

#### 10.1. Reactivity

No dangerous reactions known.

#### 10.2. Chemical stability

Stable under normal conditions.

#### 10.3. Possibility of hazardous reactions

Hazardous Polymerization may occur.

#### 10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures. Open flame.

#### 10.5. Incompatible materials

Strong acids. Strong oxidizers.

#### 10.6. Hazardous decomposition products

Carbon monoxide. Carbon dioxide.

## **SECTION 11: Toxicological information**

11.1. Information on toxicological effects	
Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Harmful if inhaled.
ATE (dust,mist)	2.249 mg/l/4h
Unknown acute toxicity (GHS_US)	0.14% of the mixture consists of ingredient(s) of unknown acute toxicity (Oral) 0.14% of the mixture consists of ingredient(s) of unknown acute toxicity (Dermal) 0.14% of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (Dust/Mist))
Aliphatic polyisocyanate (28182-81-2)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 5000 mg/kg
ATE (gases)	4500 ppmv/4h
ATE (vapours)	11 mg/l/4h
ATE (dust,mist)	1.5 mg/l/4h
Hexamethylene diisocyanate (822-06-0)	
ATE (gases)	700 ppmv/4h
ATE (vapours)	3 mg/l/4h
ATE (dust,mist)	0.5 mg/l/4h
tetraethyl N, N'-(methylenedicyclohexane-4,1	-diyl)bis-DL-aspartate (136210-30-5)
LD50 oral rat	> 2000 mg/kg Results obtained on a similar product
LD50 dermal rabbit	> 2000 mg/kg Results obtained on a similar product

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	1-diyl)bis-DL-aspartate (136210-30-5)
LC50 inhalation rat (mg/l)	> 4.224 mg/l/4h Results obtained on a similar product
Diethyl fumarate (623-91-6)	
LD50 oral rat	1367 mg/kg
ATE (oral)	1367 mg/kg bodyweight
Aspartic Ester (152637-10-0)	
LD50 oral rat	> 2000 mg/kg
LD50 dermal rat	> 2000 mg/kg Results obtained on a similar product
LC50 inhalation rat (mg/l)	> 4.224 mg/l/4h Results obtained on a similar product
Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitisation	: May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: May cause respiratory irritation.
Aliphatic polyisocyanate (28182-81-2)	
STOT-single exposure	May cause respiratory irritation.
Hexamethylene diisocyanate (822-06-0)	
STOT-single exposure	May cause respiratory irritation.
STOT-repeated exposure	: Not classified
Aliphatic polyisocyanate (28182-81-2)	
	2.2. 2.4 mall
NOAEC (inhalation, rat, dust/mist/fume, 90 days)	3.3 – 3.4 mg/l
NOAEC (inhalation, rat, dust/mist/fume, 90	3.3 – 3.4 mg/l
NOAEC (inhalation, rat, dust/mist/fume, 90 days)	3.3 – 3.4 mg/l < 11 mg/kg bodyweight/day 42 d
NOAEC (inhalation, rat, dust/mist/fume, 90 days) Diethyl fumarate (623-91-6)	
NOAEC (inhalation, rat, dust/mist/fume, 90 days) Diethyl fumarate (623-91-6) NOAEL (oral, rat, 90 days)	< 11 mg/kg bodyweight/day 42 d
NOAEC (inhalation, rat, dust/mist/fume, 90 days) Diethyl fumarate (623-91-6) NOAEL (oral, rat, 90 days) STOT-repeated exposure	< 11 mg/kg bodyweight/day 42 d
NOAEC (inhalation, rat, dust/mist/fume, 90 days) Diethyl fumarate (623-91-6) NOAEL (oral, rat, 90 days) STOT-repeated exposure Aspartic Ester (152637-10-0)	< 11 mg/kg bodyweight/day 42 d May cause damage to organs through prolonged or repeated exposure.
NOAEC (inhalation, rat, dust/mist/fume, 90 days) Diethyl fumarate (623-91-6) NOAEL (oral, rat, 90 days) STOT-repeated exposure Aspartic Ester (152637-10-0) NOAEL (subacute, oral, animal/male, 28 days) NOAEL (subacute, oral, animal/female, 28 days)	<ul> <li>&lt; 11 mg/kg bodyweight/day 42 d</li> <li>May cause damage to organs through prolonged or repeated exposure.</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> </ul>
NOAEC (inhalation, rat, dust/mist/fume, 90 days) Diethyl fumarate (623-91-6) NOAEL (oral, rat, 90 days) STOT-repeated exposure Aspartic Ester (152637-10-0) NOAEL (subacute, oral, animal/male, 28 days) NOAEL (subacute, oral, animal/female, 28 days) spiration hazard	<ul> <li>&lt; 11 mg/kg bodyweight/day 42 d</li> <li>May cause damage to organs through prolonged or repeated exposure.</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> </ul>
NOAEC (inhalation, rat, dust/mist/fume, 90 days) Diethyl fumarate (623-91-6) NOAEL (oral, rat, 90 days) STOT-repeated exposure Aspartic Ester (152637-10-0) NOAEL (subacute, oral, animal/male, 28 days) NOAEL (subacute, oral, animal/female, 28 days) spiration hazard /iscosity, kinematic	<ul> <li>&lt; 11 mg/kg bodyweight/day 42 d</li> <li>May cause damage to organs through prolonged or repeated exposure.</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> <li>Not classified</li> </ul>
NOAEC (inhalation, rat, dust/mist/fume, 90 days) Diethyl fumarate (623-91-6) NOAEL (oral, rat, 90 days) STOT-repeated exposure Aspartic Ester (152637-10-0) NOAEL (subacute, oral, animal/male, 28 days) NOAEL (subacute, oral, animal/female, 28 days) Aspiration hazard /iscosity, kinematic .ikely routes of exposure	<ul> <li>&lt; 11 mg/kg bodyweight/day 42 d</li> <li>May cause damage to organs through prolonged or repeated exposure.</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> <li>Not classified</li> <li>No data available</li> </ul>
NOAEC (inhalation, rat, dust/mist/fume, 90 days) Diethyl fumarate (623-91-6) NOAEL (oral, rat, 90 days) STOT-repeated exposure Aspartic Ester (152637-10-0) NOAEL (subacute, oral, animal/male, 28 days) NOAEL (subacute, oral, animal/female, 28 days) NOAEL (subacute, oral, animal/female, 28 days) Aspiration hazard /iscosity, kinematic .ikely routes of exposure Symptoms/effects after inhalation	<ul> <li>&lt; 11 mg/kg bodyweight/day 42 d</li> <li>May cause damage to organs through prolonged or repeated exposure.</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> <li>1000 mg/kg bodyweight Results obtained on a similar produc</li></ul>
NOAEC (inhalation, rat, dust/mist/fume, 90 days) Diethyl fumarate (623-91-6) NOAEL (oral, rat, 90 days) STOT-repeated exposure Aspartic Ester (152637-10-0) NOAEL (subacute, oral, animal/male, 28 days) NOAEL (subacute, oral, animal/female, 28	<ul> <li>&lt; 11 mg/kg bodyweight/day 42 d</li> <li>May cause damage to organs through prolonged or repeated exposure.</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> <li>1000 mg/kg bodyweight Results obtained on a similar product</li> <li>1000 mg/kg bodyweight Results obtained on a similar produc</li></ul>

## **SECTION 12: Ecological information**

#### 12.1. Toxicity

Aliphatic polyisocyanate (28182-81-2)		
LC50 fish 1	> 100 mg/l 96 h Danio rerio	
EC50 crustacea	> 100 mg/l 48 h	
tetraethyl N, N'-(methylenedicyclohexane-4,1-diyl)bis-DL-aspartate (136210-30-5)		
LC50 fish 1	66 mg/l 96 h Danio rerio (Results obtained on a similar product)	
EC50 crustacea	88.6 mg/l (Results obtained on a similar product)	
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Diethyl fumarate (623-91-6)	
LC50 fish 1	38 mg/l 96 h Pimephales promelas
Aspartic Ester (152637-10-0)	
LC50 fish 1	66 mg/l 96 h Danio rerio (Results obtained on a similar product)
EC50 crustacea	> 100 mg/l 48 h
ErC50 (algae)	> 100 mg/l 72 h
2.2. Persistence and degradability	
SURFACE BONDER ULTRA	
Persistence and degradability	May cause long-term adverse effects in the environment.
Aliphatic polyisocyanate (28182-81-2)	
Persistence and degradability	Not readily biodegradable.
Biodegradation	0 % 28 d
tetraethyl N, N'-(methylenedicyclohexane-4,	-diyl)bis-DL-aspartate (136210-30-5)
Biodegradation	13 % 28 d (Results obtained on a similar product)
Diethyl fumarate (623-91-6)	
Persistence and degradability	Readily biodegradable.
Biodegradation	92 – 95 %
Aspartic Ester (152637-10-0)	
Persistence and degradability	Not readily biodegradable.
Biodegradation	23 % 28 d
SURFACE BONDER ULTRA Bioaccumulative potential	Not established.
Aspartic Ester (152637-10-0)	1070
Bioconcentration factor (BCF REACH)	1872
2.4. Mobility in soil	
SURFACE BONDER ULTRA	
Ecology - soil	Not established.
Aspartic Ester (152637-10-0)	40.54
Partition coefficient n-octanol/water (Log Koc)	4.2 – 5.1
2.5. Other adverse effects	
Other information	: Avoid release to the environment.
SECTION 13: Disposal consideration	S
3.1. Disposal methods	
Sewage disposal recommendations	: Do not dispose of waste into sewer.
Vaste disposal recommendations	<ul> <li>Do not dispose of waste into seven.</li> <li>Dispose in a safe manner in accordance with local/national regulations.</li> </ul>
Additional information	<ul> <li>Handle empty containers with care because residual vapours are flammable.</li> </ul>
Ecology - waste materials	: Avoid release to the environment.
SECTION 14: Transport information	
Department of Transportation (DOT)	

Not regulated.

#### Transport by sea

Not regulated.

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#### Air transport

Not regulated.

SECTION 15: Reg	ulatory information
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#### 15.1. US Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

Aliphatic polyisocyanate (28182-81-2)	
EPA TSCA Regulatory Flag	XU - XU - indicates a substance exempt from reporting under the Chemical Data Reporting Rule, (40 CFR 711).
Hexamethylene diisocyanate (822-06-0)	
Subject to reporting requirements of United States SARA Section 313 Listed on EPA Hazardous Air Pollutant (HAPS)	
Listed on EPA Hazardous Air Pollutant (HAPS)	
CERCLA RQ 100 lb	
tetraethyl N, N'-(methylenedicyclohexane-4,1-diyl)bis-DL-aspartate (136210-30-5)	
EPA TSCA Regulatory Flag PMN - PMN - indicates a commenced PMN substance.	

#### 15.2. International regulations

#### CANADA

Aliphatic polyisocyanate (28182-81-2)	
isted on the Canadian DSL (Domestic Substances List) inventory.	
lexamethylene diisocyanate (822-06-0)	
isted on the Canadian DSL (Domestic Substances List) inventory.	
tetraethyl N, N'-(methylenedicyclohexane-4,1-diyl)bis-DL-aspartate (136210-30-5)	
Listed on the Canadian DSL (Domestic Substances List) inventory.	
Diethyl fumarate (623-91-6)	
isted on the Canadian NDSL (Non-Domestic Substances List)	
Aspartic Ester (152637-10-0)	
lot listed on the Canadian DSL (Domestic Substances List)/NDSL (Non-Domestic Substances List)	

#### **EU-Regulations**

No additional information available

#### National regulations

Aliphatic polyisocyanate (28182-81-2)	
Listed on IARC (International Agency for Research on Cancer)	
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)	
Listed on the AICS (Australian Inventory of Chemical Substances)	
Listed on Taiwan National Chemical Inventory	
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)	
Listed on NZIoC (New Zealand Inventory of Chemicals)	
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory	
Listed on KECL/KECI (Korean Existing Chemicals Inventory)	
Hexamethylene diisocyanate (822-06-0)	
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)	
Listed on the Chinese Catalog of Hazardous Chemicals.	
Listed on NZIoC (New Zealand Inventory of Chemicals)	
Listed on Taiwan National Chemical Inventory	
Listed on the Korea Designated Existing Substances List (First Batch).	
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)	
Listed on the AICS (Australian Inventory of Chemical Substances)	
Listed on KECL/KECI (Korean Existing Chemicals Inventory)	

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tetraethyl N, N'-(methylenedicyclohexane-4,1-diyl)bis-DL-aspartate (136210-30-5)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) Listed on NZIoC (New Zealand Inventory of Chemicals) Listed on Taiwan National Chemical Inventory Listed on the AICS (Australian Inventory of Chemical Substances) Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory Not listed on Phillipines Inventory of Chemicals and Chemical Substances (PICCS) Listed on KECL/KECI (Korean Existing Chemicals Inventory)
Diethyl fumarate (623-91-6)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) Listed on NZIoC (New Zealand Inventory of Chemicals) Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances) Listed on Taiwan National Chemical Inventory Listed on the AICS (Australian Inventory of Chemical Substances) Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory Listed on KECL/KECI (Korean Existing Chemicals Inventory)
Aspartic Ester (152637-10-0)
Listed on Taiwan National Chemical Inventory Not listed on New Zealand - Inventory of Chemicals (NZIoC). Not listed on Phillipines Inventory of Chemicals and Chemical Substances (PICCS) Not listed on the AICS (Australian Inventory of Chemical Substances) Not listed on the Japanese ENCS (Existing & New Chemical Substances) inventory Not listed on the Inventory of Existing Chemical Substances of China (IECSC). Not listed on the KECI (Chemical Inventory of Korea).

#### 15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

Component	State or local regulations
Hexamethylene diisocyanate (822-06-0)	U.S Delaware - Pollutant Discharge Requirements - Reportable Quantities; U.S Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations; U.S Massachusetts - Right To Know List; U.S New Jersey - Right to Know Hazardous Substance List

### **SECTION 16: Other information**

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Data sources	REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006. European Chemicals Agency (ECHA) C&L Inventory database. Accessed at http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database. Krister Forsberg and S.Z. Mansdorf, "Quick Selection Guide to Chemical Protective Clothing", Fifth Edition. National Fire Protection Association. Fire Protection Guide to Hazardous Materials; 10th edition. Manufacturer Information. United Nations Economic Commission for Europe: About the GHS. Accessed at http://www.unece.org/trans/danger/publi/ghs/ghs_welcome_e.html.
Other information	: None.

#### : None.

#### Full text of H-statements:

un	liext of fi-statements.		
	H302	Harmful if swallowed.	
	H315	Causes skin irritation.	
	H317	May cause an allergic skin reaction.	
	H319	Causes serious eye irritation.	
	H331	Toxic if inhaled.	
	H332	Harmful if inhaled.	
	H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.	
	H335	May cause respiratory irritation.	

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H373	May cause damage to organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.

Abbreviations and	l acronyms:
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	ATE: Acute Toxicity Estimate
	CAS (Chemical Abstracts Service) number
	CLP: Classification, Labelling, Packaging.
	EC50: Environmental Concentration associated with a response by 50% of the test population.
	GHS: Globally Harmonized System (of Classification and Labeling of Chemicals).
	European List of Waste (LoW) code
	LD50: Lethal Dose for 50% of the test population
	TWA: Time Weighted Average
	STEL: Short Term Exposure Limits
	PBT: Persistent, Bioaccumulative, Toxic
	WEL: Workplace Exposure Limit
vPvB	Very Persistent and Very Bioaccumulative
IFPA health hazard	: 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.
IFPA fire hazard	: 1 - Materials that must be preheated before ignition can occur.
IFPA reactivity	: 0 - Normally stable, even under fire exposure conditions, and not reactive with water.
lazard Rating	$\diamond$
Health	: 2 Moderate Hazard - Temporary or minor injury may occur
	* - Chronic (long-term) health effects may result from repeated overexposure
lammability	<ul> <li>1 Slight Hazard - Materials that must be preheated before ignition will occur. Includes liquids, solids and semi solids having a flash point above 200 F. (Class IIIB)</li> </ul>
Physical	: 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will N react with water, polymerize, decompose, condense, or self-react. Non-Explosives.
Personal protection	: B
	B - Safety glasses, Gloves

SDS Prepared by: The Redstone Group, dba SafeBridge Consultants, Inc. 110 Polaris Pkwy Suite 200 Westerville, OH USA 43082 P: +1 (614) 923-7472 www.redstonegrp.com

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.