

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture
Product name : SURFACE BONDER ULTRA

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Industrial/Professional use spec : Industrial
For professional use only
Use of the substance/mixture : Adhesives, sealants

1.2.2. Uses advised against

Restrictions on use : No additional information available

1.3. Details of the supplier of the safety data sheet

Integra Adhesives
600 Ellis Road
27703 Durham, NC - 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)

Country	Organisation/Company	Address	Emergency number	Comment
United Kingdom	National Poisons Information Service (Birmingham Centre) City Hospital	Dudley Road B18 7QH Birmingham	0344 892 0111	

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Acute toxicity (inhalation:dust,mist) Category 4 H332
Skin sensitisation, Category 1 H317
Specific target organ toxicity — Single exposure, Category 3, H335
Respiratory tract irritation
Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

Harmful if inhaled. May cause an allergic skin reaction. May cause respiratory irritation. Harmful to aquatic life with long lasting effects.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS07

Signal word (CLP) : Warning
Hazardous ingredients : Aliphatic polyisocyanate; Hexamethylene diisocyanate ; tetraethyl N, N'-(methylenedicyclohexane-4,1-diyl)bis-DL-aspartate; Diethyl fumarate; Aspartic Ester
Hazard statements (CLP) : H317 - May cause an allergic skin reaction.
H332 - Harmful if inhaled.
H335 - May cause respiratory irritation.
Precautionary statements (CLP) : P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.
P271 - Use only outdoors or in a well-ventilated area.
P272 - Contaminated work clothing should not be allowed out of the workplace.
P280 - Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

SURFACE BONDER ULTRA

Safety Data Sheet

according to Regulation (EU) 2015/830

P302+P352 - IF ON SKIN: Wash with plenty of water.
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312 - Call a POISON CENTRE or 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.
P362+P364 - Take off contaminated clothing and wash it 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 accordance with local, regional, national and/or international regulation.

Unknown acute toxicity (CLP: Classification, Labelling, Packaging.) - SDS

: 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))

Unknown hazards to the aquatic environment (CLP) : Contains 0.14 % of components with unknown hazards to the aquatic environment

2.3. Other hazards

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Aliphatic polyisocyanate	(CAS-No.) 28182-81-2 (EC-No.) 500-060-2	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 (EC-No.) 429-270-1 (EC Index-No.) 607-521-00-8	10 - 20	Skin Sens. 1, H317 Aquatic Chronic 3, H412
Aluminum hydroxide	(CAS-No.) 21645-51-2 (EC-No.) 244-492-7	10 - 20	Not classified
Colloidal Silicon dioxide	(CAS-No.) 112945-52-5 (EC-No.) 231-545-4	0 - 2	Not classified
Silicon dioxide (amorphous)	(CAS-No.) 7631-86-9 (EC-No.) 231-545-4	0 - 2	Not classified
Diethyl fumarate	(CAS-No.) 623-91-6 (EC-No.) 210-819-7	0.1 - 0.9	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Skin Sens. 1, H317 STOT RE 2, H373
Aspartic Ester	(CAS-No.) 152637-10-0	0.3 - 0.7	Skin Sens. 1B, H317 Aquatic Chronic 3, H412
Hexamethylene diisocyanate (Note 2)	(CAS-No.) 822-06-0 (EC-No.) 212-485-8 (EC Index-No.) 615-011-00-1	0.1 - 0.5	Acute Tox. 3 (Inhalation), H331 Eye Irrit. 2, H319 STOT SE 3, H335 Skin Irrit. 2, H315 Resp. Sens. 1, H334 Skin Sens. 1, H317

Specific concentration limits:

Name	Product identifier	Specific concentration limits
Hexamethylene diisocyanate	(CAS-No.) 822-06-0 (EC-No.) 212-485-8	(0.5 ≤ C ≤ 100) Skin Sens. 1, H317 (0.5 ≤ C ≤ 100) Resp. Sens. 1, H334

SURFACE BONDER ULTRA

Safety Data Sheet

according to Regulation (EU) 2015/830

(EC Index-No.) 615-011-00-1

Note 2 : The concentration of isocyanate stated is the percentage by weight of the free monomer calculated with reference to the total weight of the mixture.

Full text of 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 effects, both acute and delayed

- Symptoms/effects after inhalation : May cause respiratory irritation. Cough. Harmful if inhaled.
- 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. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.
- Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

- Fire hazard : Burning produces irritating, toxic and noxious fumes.
- Explosion hazard : Product is not explosive.

5.3. Advice for firefighters

- 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 : Do not enter fire area without proper protective equipment, including respiratory protection. Wear a self contained breathing apparatus. Wear fire/flame resistant/retardant clothing. EN469.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment 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

- Protective equipment : Refer to section 8.2.
- Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

- Protective equipment : Refer to section 8.2.
- Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

- For containment : Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

SURFACE BONDER ULTRA

Safety Data Sheet

according to Regulation (EU) 2015/830

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, including 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.

7.3. Specific end use(s)

adhesives. sealant.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Hexamethylene diisocyanate (822-06-0)	
Austria - Occupational Exposure Limits	
MAK (mg/m ³)	0.035 mg/m ³
MAK Daily average value (ppm)	0.005 ppm
MAK Short time value (mg/m ³)	0.035 mg/m ³
MAK Short time value (ppm)	0.005 ppm
Remark (AT)	(gemessen als Momentanwert,Sah)
Belgium - Occupational Exposure Limits	
Limit value (mg/m ³)	0.034 mg/m ³
Limit value (ppm)	0.005 ppm
Czech Republic - Occupational Exposure Limits	
Local name	Hexamethylen-1,6-diisokyanát (Diisokyanatohexan)
Expoziční limity (PEL) (mg/m ³)	0.035 mg/m ³
Expoziční limity (PEL) (ppm)	0.00508 ppm
Expoziční limity (NPK-P) (mg/m ³)	0.07 mg/m ³
Expoziční limity (NPK-P) (ppm)	0.0102 ppm
Remark (CZ)	I (dráždí sliznice (oči, dýchací cesty) resp. kůži), S (látka má senzibilizační účinek)
Regulatory reference	Nařízení vlády č. 361/2007 Sb. (zpracovány změny č. 246/2018 Sb.)
Denmark - Occupational Exposure Limits	
Local name	Hexamethylendiisocyanat (1,6-Diisocyanatohexan; HDI)
Grænsevædi (8 timer) (mg/m ³)	0.035 mg/m ³
Grænsevædi (8 timer) (ppm)	0.005 ppm
Grænsevædi (STEL) (mg/m ³)	0.07 mg/m ³
Grænsevædi (STEL) (ppm)	0.01 ppm
Regulatory reference	BEK nr 1458 af 13/12/2019

SURFACE BONDER ULTRA

Safety Data Sheet

according to Regulation (EU) 2015/830

Hexamethylene diisocyanate (822-06-0)	
France - Occupational Exposure Limits	
Local name	Diisocyanate d'hexaméthylène
VME (mg/m ³)	0.075 mg/m ³
VME (ppm)	0.01 ppm
VLE (mg/m ³)	0.15 mg/m ³
VLE (ppm)	0.02 ppm
Note (FR)	Valeurs recommandées/admises; certaines ou toutes ces VLE s'entendent pour des concentrations mesurées sur une durée de 5 min; risque d'allergie respiratoire
Regulatory reference	Circulaire du Ministère du travail (réf.: INRS ED 984, 2016)
Germany - Occupational Exposure Limits (TRGS 900)	
TRGS 900 Local name	Hexamethylen-1,6-diisocyanat
Occupational exposure limit value (mg/m ³)	0.035 mg/m ³
Occupational exposure limit value (ppm)	0.005 ppm
Limitation of exposure peaks (mg/m ³)	0.005 mg/m ³
Limitation of exposure peaks (ppm)	0.005 ppm
Peak exposure limitation factor	1;=2=(I)
TRGS 900 Remark	DFG;11;12;Sa
TRGS 900 Regulatory reference	TRGS900
Hungary - Occupational Exposure Limits	
Local name	hexametilén-diizocianát (HDI)
AK-érték	0.035 mg/m ³
CK-érték	0.035 mg/m ³
Megjegyzések (HU)	i (ingerlő anyag, amely izgatja a bőrt, nyálkahártyát, szemet vagy mindhárom), sz (Túlérzékenységet okozó (szenzibilizáló) tulajdonságú anyag. Az anyagra érzékeny egyéneken „túlérzékenységen” alapuló bőr-, légzőrendszeri, esetleg más szervet/szervrendszert károsító megbetegedést okozhat); T (Azok az anyagok, amelyek egészségkárosító hatása TARTÓS expozíciót követően jelentkezik)
Regulatory reference	5/2020. (II. 6.) ITM rendelet - A kémiai kóroki tényezők hatásának kitett munkavállalók egészségének és biztonságának védelméről
Ireland - Occupational Exposure Limits	
OEL (8 hours ref) (ppm)	0.005 ppm
Latvia - Occupational Exposure Limits	
Local name	Heksametilēndiizocianāts (1,6-heksāndiizocianāts)
OEL TWA (mg/m ³)	0.05 mg/m ³
Regulatory reference	Ministru kabineta 2007. gada 15. maija noteikumiem Nr. 325
Lithuania - Occupational Exposure Limits	
IPRV (mg/m ³)	0.03 mg/m ³
IPRV (ppm)	0.005 ppm
NRV (mg/m ³)	0.07 mg/m ³
NRV (ppm)	0.01 ppm
Remark (LT)	Ū J; Nustatyta 5 min. poveikio trukmės NRV. Ta pati RV, idėreikėta ppm, taikoma izocianatams, kurių RV nenustatyta. Ėi nuostata taikoma ir dulkių ar laėdelių (aerolių) pavidalo izocianatams, áskaitant prepolymerizuotus izocianatus (aduktus). Taėiau skirtingė

SURFACE BONDER ULTRA

Safety Data Sheet

according to Regulation (EU) 2015/830

Hexamethylene diisocyanate (822-06-0)	
	medpiagø RV, iðreikðtos mg/m ³ , yra skirtingos.
Poland - Occupational Exposure Limits	
Local name	Diizocyanian heksano-1,6-diylu
NDS (mg/m ³)	0.04 mg/m ³
NDSCh (mg/m ³)	0.08 mg/m ³
Remark (PL)	Skóra (Oznakowanie substancji notacją „skóra” oznacza, że wchłanianie substancji przez skórę może być tak samo istotne jak przy narażeniu drogą oddechową).
Regulatory reference	Dz. U. 2018 poz. 1286
Portugal - Occupational Exposure Limits	
Local name	Di-isocianato de hexametileno
OEL TWA (ppm)	0.005 ppm
Regulatory reference	Norma Portuguesa NP 1796:2014
Slovakia - Occupational Exposure Limits	
Local name	Izokyanáty: Hexametylén-1,6-diizokyanát (HDI)
NPHV (priemerná) (mg/m ³)	0.035 mg/m ³
NPHV (priemerná) (ppm)	0.005 ppm
Upozornenie (SK)	S - znamená, že faktor môže spôsobiť senzibilizáciu
Regulatory reference	Nariadenie vlády č. 33/2018 Z. z.
Slovenia - Occupational Exposure Limits	
Local name	heksametilen-1,6-diizocianat
OEL TWA (mg/m ³)	0.035 mg/m ³
OEL TWA (ppm)	0.005 ppm
OEL STEL (mg/m ³)	0.035 mg/m ³
OEL STEL (ppm)	0.005 ppm
Remark (SI)	BAT (Biološka mejna vrednost)
Regulatory reference	Uradni list RS, št. 78/2019 z dne 20.12.2019
Slovenia - Biological limit values	
Local name	heksametilendiizocianat
Regulatory reference	Uradni list RS, št. 78/2018 z dne 4.12.2018
Spain - Occupational Exposure Limits	
Local name	Diisocianato de 1,6-hexametileno (HDI)
VLA-ED (mg/m ³)	0.035 mg/m ³
VLA-ED (ppm)	0.005 ppm
Notes	Sen (Sensibilizante).
Regulatory reference	Límites de Exposición Profesional para Agentes Químicos en España 2019. INSHT
Sweden - Occupational Exposure Limits	
Local name	Hexametylendiisocyanat (HDI)
nivågränsvärde (NVG) (mg/m ³)	0.02 mg/m ³
nivågränsvärde (NVG) (ppm)	0.002 ppm
kortidsvärde (KTV) (mg/m ³)	0.03 mg/m ³

SURFACE BONDER ULTRA

Safety Data Sheet

according to Regulation (EU) 2015/830

Hexamethylene diisocyanate (822-06-0)	
kortidsvärde (KTV) (ppm)	0.005 ppm
takgränsvärde (TGV) (mg/m ³)	0.03 mg/m ³
takgränsvärde (TGV) (ppm)	0.005 ppm
Anmärkning (SE)	M (Medicinska kontroller kan krävas för hantering av ämnet. Se vidare föreskrifterna om medicinska kontroller i arbetslivet. För vissa ämnen ska arbetsgivaren erbjuda läkarundersökning och för andra ämnen gäller krav på periodisk läkarundersökning och tjänstbarhetsbedömning); S (Ämnet är sensibiliserande. Sensibiliserande ämnen kan ge allergi eller annan överkänslighet. Överkänslighetsbesvären drabbar främst huden eller andningsorganen. Överkänslighet innebär att man reagerar vid kontakt med ämnen som normalt inte ger besvär. Allergi är en undergrupp av överkänslighet som orsakas av reaktioner i kroppens immunsystem. Särskilt låga gränsvärden har fastställts för ämnen med mer uttalat luftvägssensibiliserande egenskaper. Några ämnen med starkt sensibiliserande egenskaper får endast hanteras efter tillstånd från Arbetsmiljöverket, se föreskrifterna om kemiska arbetsmiljörisker. Dessa ämnen har inga gränsvärden men i vissa fall riktvärden); 2 (Korttidsgränsvärde som avser 5-minutersperiod gäller för ammoniak, diisocyanater, 2,6-diisopropylfenylisocyanat, fenylisocyanat, isocyanasyra och metylisocyanat. Korttidsgränsvärde som avser 1-minuters-period gäller för akrylsyra)
Regulatory reference	Hygieniska gränsvärden (AFS 2018:1)
Norway - Occupational Exposure Limits	
Local name	Heksan-1,6-diisocyanat (HDI; Heksametylendiisocyanat)
Greenseverdier (AN) (mg/m ³)	0.035 mg/m ³
Greenseverdier (AN) (ppm)	0.005 ppm
Greenseverdier (Korttidsverdi) (ppm)	0.01 ppm
Merknader (NO)	A (Kjemikalier som skal betraktes som at de fremkaller allergi eller annen overfølsomhet i øynene eller luftveier, eller som skal betraktes som at de fremkaller allergi ved hudkontakt)
Regulatory reference	FOR-2018-08-21-1255
Switzerland - Occupational Exposure Limits	
VME (mg/m ³)	0.02 mg/m ³
MAK (ppm)	0.005 ppm
KZGW (mg/m ³)	0.04 mg/m ³
KZGW (ppm)	0.01 ppm
Colloidal Silicon dioxide (112945-52-5)	
Austria - Occupational Exposure Limits	
MAK (mg/m ³)	4 mg/m ³
Remark (AT)	(einatembare Fraktion)
Finland - Occupational Exposure Limits	
HTP-arvo (8h) (mg/m ³)	5 mg/m ³
Germany - Occupational Exposure Limits (TRGS 900)	
Occupational exposure limit value (mg/m ³)	4 mg/m ³
TRGS 900 Remark	(einatembare Fraktion)
Ireland - Occupational Exposure Limits	
OEL (8 hours ref) (mg/m ³)	2.4 mg/m ³ 6 mg/m ³ (total inhalable dust)
Spain - Occupational Exposure Limits	
VLA-ED (mg/m ³)	10 mg/m ³

SURFACE BONDER ULTRA

Safety Data Sheet

according to Regulation (EU) 2015/830

Colloidal Silicon dioxide (112945-52-5)	
Notes	(respirable aerosol)
United Kingdom - Occupational Exposure Limits	
WEL TWA (mg/m ³)	6 mg/m ³ (inhalable aerosol) 2.4 mg/m ³ (respirable aerosol)
Switzerland - Occupational Exposure Limits	
VME (mg/m ³)	4 mg/m ³
Remark	(einatembarer Staub)

Silicon dioxide (amorphous) (7631-86-9)	
Austria - Occupational Exposure Limits	
MAK (mg/m ³)	4 mg/m ³
Remark (AT)	(einatembare Fraktion)
Finland - Occupational Exposure Limits	
HTP-arvo (8h) (mg/m ³)	5 mg/m ³
Germany - Occupational Exposure Limits (TRGS 900)	
TRGS 900 Local name	Kieselsäuren, amorphe
Occupational exposure limit value (mg/m ³)	4 mg/m ³ (E)
TRGS 900 Remark	DFG;2;Y
TRGS 900 Regulatory reference	TRGS900
Ireland - Occupational Exposure Limits	
OEL (8 hours ref) (mg/m ³)	2.4 mg/m ³ 6 mg/m ³ (total inhalable dust)
Latvia - Occupational Exposure Limits	
Local name	Silīcija dioksīds
OEL TWA (mg/m ³)	1 mg/m ³
Regulatory reference	Ministru kabineta 2007. gada 15. maija noteikumiem Nr. 325 (Grozījumi Ministru kabineta 2020. gada 7. janvārī noteikumiem Nr. 11)
Slovenia - Occupational Exposure Limits	
Local name	silikagel
OEL TWA (mg/m ³)	4 mg/m ³
Remark (SI)	Y (Snovi, pri katerih ni nevarnosti za zarodek ob upoštevanju mejnih vrednosti in bat vrednosti)
Regulatory reference	Uradni list RS, št. 78/2019 z dne 20.12.2019
Spain - Occupational Exposure Limits	
VLA-ED (mg/m ³)	10 mg/m ³
Notes	(respirable aerosol)
United Kingdom - Occupational Exposure Limits	
WEL TWA (mg/m ³)	6 mg/m ³ (inhalable aerosol) 2.4 mg/m ³ (respirable aerosol)
Switzerland - Occupational Exposure Limits	
VME (mg/m ³)	4 mg/m ³
Remark	(einatembarer Staub)

SURFACE BONDER ULTRA

Safety Data Sheet

according to Regulation (EU) 2015/830

Aluminum hydroxide (21645-51-2)	
Austria - Occupational Exposure Limits	
MAK Daily average value (ppm)	10 ppm (gemessen als einatembarer Aerosolanteil) 5 ppm (alveolengängiger Anteil)
MAK Short time value (ppm)	20 ppm (gemessen als einatembarer Aerosolanteil) max. 2x60 min./Schicht 10 ppm (alveolengängiger Anteil) max. 2x60 min./Schicht
Latvia - Occupational Exposure Limits	
Local name	Alumīnija hidroksīds
OEL TWA (mg/m ³)	6 mg/m ³
Regulatory reference	Ministru kabineta 2007. gada 15. maija noteikumiem Nr. 325 (Grozījumi Ministru kabineta 2011. gada 1. februārī noteikumiem Nr. 92)
Lithuania - Occupational Exposure Limits	
IPRV (mg/m ³)	6 mg/m ³
Remark (LT)	F
Poland - Occupational Exposure Limits	
Local name	Wodorotlenek glinu
NDS (mg/m ³)	2.5 mg/m ³ w przeliczeniu na Al: frakcja wdychalna 1.2 mg/m ³ w przeliczeniu na Al: frakcja respirabilna
Remark (PL)	Frakcja wdychalna – frakcja aerozolu wnikaćca przez nos i usta, która po zdeponowaniu w drogach oddechowych stwarza zagrożenie dla zdrowia. Frakcja respirabilna – frakcja aerozolu wnikaćca do dróg oddechowych, która stwarza zagrożenie dla zdrowia po zdeponowaniu w obszarze wymiany gazowej.
Regulatory reference	Dz. U. 2018 poz. 1286
Slovakia - Occupational Exposure Limits	
Local name	Hydroxid hlinitý
NPHV (priemerná) (mg/m ³)	4 mg/m ³ inhalovateľná frakcia – prach 1.5 mg/m ³ respirabilná frakcia – prach
Regulatory reference	Nariadenie vlády č. 33/2018 Z. z.
Switzerland - Occupational Exposure Limits	
VME (mg/m ³)	3 mg/m ³
Remark	(alveolengängige Fraktion)

8.2. Exposure 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.

Personal protective equipment:

Avoid all unnecessary exposure.

Hand protection:

Wear suitable gloves resistant to chemical penetration. nitrile rubber gloves. natural rubber gloves. EN 374

Eye protection:

Safety glasses. EN 166

Skin and body protection:

Wear suitable protective clothing

SURFACE BONDER ULTRA

Safety Data Sheet

according to Regulation (EU) 2015/830

Respiratory protection:

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

Environmental exposure controls:

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

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
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
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
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: 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 (Based on available data, the classification criteria are not met)
Acute toxicity (dermal)	: Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (inhalation)	: Harmful if inhaled.

SURFACE BONDER ULTRA

Safety Data Sheet

according to Regulation (EU) 2015/830

SURFACE BONDER ULTRA

ATE (dust,mist)	2.232 mg/l/4h
-----------------	---------------

Aliphatic polyisocyanate (28182-81-2)

LD50 oral rat	> 5000 mg/kg
---------------	--------------

LD50 dermal rabbit	> 5000 mg/kg
--------------------	--------------

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
--------------------	--

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
---------------	------------

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
----------------------------	---

Colloidal Silicon dioxide (112945-52-5)

LD50 oral rat	3160 mg/kg
---------------	------------

Silicon dioxide (amorphous) (7631-86-9)

LD50 oral rat	> 5000 mg/kg
---------------	--------------

LD50 dermal rabbit	> 2000 mg/kg
--------------------	--------------

LC50 inhalation rat (mg/l)	> 58.8 mg/l/4h
----------------------------	----------------

Unknown acute toxicity (CLP: Classification, Labelling, Packaging.) - SDS

: 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))

Skin corrosion/irritation

: Not classified (Based on available data, the classification criteria are not met)

Serious eye damage/irritation

: Not classified (Based on available data, the classification criteria are not met)

Respiratory or skin sensitisation

: May cause an allergic skin reaction.

Germ cell mutagenicity

: Not classified (Based on available data, the classification criteria are not met)

Carcinogenicity

: Not classified (Based on available data, the classification criteria are not met)

Silicon dioxide (amorphous) (7631-86-9)

IARC group	3 - Not classifiable
------------	----------------------

Reproductive toxicity

: Not classified (Based on available data, the classification criteria are not met)

Diethyl fumarate (623-91-6)

NOAEL (animal/male, F0/P)	11 mg/kg
---------------------------	----------

NOAEL (animal/female, F0/P)	11 mg/kg
-----------------------------	----------

SURFACE BONDER ULTRA

Safety Data Sheet

according to Regulation (EU) 2015/830

Aspartic Ester (152637-10-0)

LOAEL (animal/male, F0/P)	200 mg/kg Results obtained on a similar product
LOAEL (animal/female, F0/P)	200 mg/kg Results obtained on a similar product
LOAEL (animal/male, F1)	1000 mg/kg Results obtained on a similar product
LOAEL (animal/female, F1)	1000 mg/kg Results obtained on a similar product

STOT-single exposure : May cause respiratory irritation.

STOT-repeated exposure : Not classified (Based on available data, the classification criteria are not met)

Aliphatic polyisocyanate (28182-81-2)

NOAEC (inhalation, rat, dust/mist/fume, 90 days)	3.3 – 3.4 mg/l
--	----------------

Diethyl fumarate (623-91-6)

NOAEL (oral, rat, 90 days)	< 11 mg/kg bodyweight/day 42 d
----------------------------	--------------------------------

Aspartic Ester (152637-10-0)

NOAEL (subacute, oral, animal/male, 28 days)	1000 mg/kg bodyweight Results obtained on a similar product
NOAEL (subacute, oral, animal/female, 28 days)	1000 mg/kg bodyweight Results obtained on a similar product

Aspiration hazard : Not classified (Based on available data, the classification criteria are not met)

SECTION 12: Ecological information

12.1. Toxicity

Unknown hazards to the aquatic environment (CLP) : Contains 0.14 % of components with unknown hazards to the aquatic environment
Hazardous to the aquatic environment, short-term (acute) : Not classified
Hazardous to the aquatic environment, long-term (chronic) : Not classified

Aliphatic polyisocyanate (28182-81-2)

LC50 fish 1	> 100 mg/l 96 h Danio rerio
EC50 crustacea	> 100 mg/l 48 h
EC50 72h algae (1)	> 1000 mg/l 72 h green algae

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)

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

SURFACE BONDER ULTRA

Safety Data Sheet

according to Regulation (EU) 2015/830

Silicon dioxide (amorphous) (7631-86-9)

LC50 fish 1	> 10000 mg/l
EC50 crustacea	> 1000 mg/l

12.2. 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-4,1-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

Silicon dioxide (amorphous) (7631-86-9)

Persistence and degradability	Product persists.
-------------------------------	-------------------

12.3. Bioaccumulative potential

SURFACE BONDER ULTRA

Bioaccumulative potential	Not established.
---------------------------	------------------

Aspartic Ester (152637-10-0)

Bioconcentration factor (BCF REACH)	1872
-------------------------------------	------

12.4. Mobility in soil

SURFACE BONDER ULTRA

Ecology - soil	Not established.
----------------	------------------

Aspartic Ester (152637-10-0)

Partition coefficient n-octanol/water (Log Koc)	4.2 – 5.1
---	-----------

12.5. Results of PBT and vPvB assessment

SURFACE BONDER ULTRA

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. Other adverse effects

Additional information : Avoid release to the environment.

SURFACE BONDER ULTRA

Safety Data Sheet

according to Regulation (EU) 2015/830

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Sewage disposal recommendations	: Do not dispose of waste into sewer.
Waste disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations.
Additional information	: Handle empty containers with care because residual vapours are flammable.
Ecology - waste materials	: Avoid release to the environment.
European List of Waste (LoW) code	: For disposal within the EC, the appropriate code according to the European Waste Catalogue (EWC) should be used.
HP Code	: HP13 - "Sensitising:" waste which contains one or more substances known to cause sensitising effects to the skin or the respiratory organs. HP5 - "Specific Target Organ Toxicity (STOT)/Aspiration Toxicity:" waste which can cause specific target organ toxicity either from a single or repeated exposure, or which cause acute toxic effects following aspiration. HP6 - "Acute Toxicity:" waste which can cause acute toxic effects following oral or dermal administration, or inhalation exposure.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

UN-No. (ADR)	: Not regulated.
UN-No. (IMDG)	: Not regulated.
UN-No. (IATA)	: Not regulated.
UN-No. (ADN)	: Not regulated.
UN-No. (RID)	: Not regulated.

14.2. UN proper shipping name

Proper Shipping Name (ADR)	: Not regulated.
Proper Shipping Name (IMDG)	: Not regulated.
Proper Shipping Name (IATA)	: Not regulated.
Proper Shipping Name (ADN)	: Not regulated.
Proper Shipping Name (RID)	: Not regulated.

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR)	: Not regulated.
----------------------------------	------------------

IMDG

Transport hazard class(es) (IMDG)	: Not regulated.
-----------------------------------	------------------

IATA

Transport hazard class(es) (IATA)	: Not regulated.
-----------------------------------	------------------

ADN

Transport hazard class(es) (ADN)	: Not regulated.
----------------------------------	------------------

RID

Transport hazard class(es) (RID)	: Not regulated.
----------------------------------	------------------

14.4. Packing group

Packing group (ADR)	: Not regulated.
Packing group (IMDG)	: Not regulated.
Packing group (IATA)	: Not regulated.
Packing group (ADN)	: Not regulated.
Packing group (RID)	: Not regulated.

14.5. Environmental hazards

Dangerous for the environment	: No
Marine pollutant	: No
Other information	: No supplementary information available

14.6. Special precautions for user

Overland transport

Not regulated.

Transport by sea

Not regulated.

SURFACE BONDER ULTRA

Safety Data Sheet

according to Regulation (EU) 2015/830

Air transport

Not regulated.

Inland waterway transport

Not regulated.

Rail transport

Not regulated.

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations

The following restrictions are applicable according to Annex XVII of the REACH Regulation (EC) No 1907/2006:

Reference code	Applicable on	Entry title or description
3(b)	SURFACE BONDER ULTRA ; Aliphatic polyisocyanate ; Hexamethylene diisocyanate ; tetraethyl N, N'-(methylenedicyclohexane-4,1-diyl)bis-DL-aspartate ; Diethyl fumarate ; Aspartic Ester	Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10
3(c)	tetraethyl N, N'-(methylenedicyclohexane-4,1-diyl)bis-DL-aspartate ; Aspartic Ester	Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard class 4.1

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

Contains no substance subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

Contains no substance subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

15.1.2. National regulations

Germany

Water hazard class (WGK)

: WGK 2, Significantly hazardous to water (Classification according to AwSV, Annex 1)

12th Ordinance Implementing the Federal

: Is not subject of the Hazardous Incident Ordinance (12. BImSchV)

Immission Control Act - 12.BImSchV

Netherlands

SZW-lijst van kankerverwekkende stoffen

: None of the components are listed

SZW-lijst van mutagene stoffen

: None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding

: None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid

: None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling

: None of the components are listed

Denmark

Danish National Regulations

: Young people below the age of 18 years are not allowed to use the product
Pregnant/breastfeeding women working with the product must not be in direct contact with the product

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Abbreviations and acronyms:

	ATE: Acute Toxicity Estimate
	CAS (Chemical Abstracts Service) number
	CLP: Classification, Labelling, Packaging.

SURFACE BONDER ULTRA

Safety Data Sheet

according to Regulation (EU) 2015/830

	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

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.

Full text of H- and EUH-statements:	
Acute Tox. 3 (Inhalation)	Acute toxicity (inhal.), Category 3
Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
Acute Tox. 4 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Chronic 3	Hazardous to the aquatic environment — Chronic Hazard, Category 3
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Resp. Sens. 1	Respiratory sensitisation, Category 1
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Skin sensitisation, Category 1
Skin Sens. 1B	Skin sensitisation, category 1B
STOT RE 2	Specific target organ toxicity — Repeated exposure, Category 2
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
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.
H373	May cause damage to organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.

SURFACE BONDER ULTRA

Safety Data Sheet

according to Regulation (EU) 2015/830

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Acute Tox. 4 (Inhalation:dust,mist)	H332	Calculation method
Skin Sens. 1	H317	Calculation method
STOT SE 3	H335	Calculation method

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.