

SAFETY DATA SHEET

In accordance with OSHA 29 CFR 1910.1200

ZANDUR #20
Z114 Rev. 1

Revision Date : 15-Feb-2024
Supersedes Date: Not applicable

1. Identification

1.1. Product identifier

Product Name ZANDUR #20 Single-part Urethane Adhesive

Other means of identification

Other information 30627987

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

Recommended use Adhesives

Restrictions on use No information available

1.3. Details of the supplier of the safety data sheet

Responsible Party

Zandur
28 Kelley Drive
Front Royal, VA 22630 USA
Phone: +1(888) 397-2656 (Domestic Toll Free)
Phone: +1 (610) 932-4390 (Local)

1.4. Emergency telephone number

Emergency Telephone CHEMTREC (Chemical Transportation Emergency Center)
Chemtrec: 1-800-424-9300 (US) , 1-703-527-3887 (Outside U.S.)
Use reference CCN#833717.

2. Hazard(s) identification

2.1. Classification of the substance or mixture

Respiratory sensitization	Category 1
Skin sensitization	Category 1
Reproductive toxicity	Category 1B

Hazards not otherwise classified (HNOC)

Not applicable

2.2. Label elements

EMERGENCY OVERVIEW

Danger

Hazard statements

May cause allergy or asthma symptoms or breathing difficulties if inhaled
May cause an allergic skin reaction
May damage fertility or the unborn child

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Appearance Paste **Physical state** Liquid **Odor** No information available

Precautionary Statements - Prevention

Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Wear protective gloves/protective clothing/eye protection/face protection
Avoid breathing dust/fume/gas/mist/vapors/spray
In case of inadequate ventilation wear respiratory protection
Contaminated work clothing must not be allowed out of the workplace

Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention
IF ON SKIN: Wash with plenty of water and soap
If skin irritation or rash occurs: Get medical advice/attention
Wash contaminated clothing before reuse
IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing
If experiencing respiratory symptoms: Call a POISON CENTER or doctor

Precautionary Statements - Storage

Store locked up

Precautionary Statements - Disposal

Dispose of contents/ container to an approved waste disposal plant

22 % of the mixture consists of ingredient(s) of unknown toxicity

2.3. Other Information

Causes mild skin irritation.

3. Composition/information on ingredients

3.1. Substances

Not applicable.

Mixture

Chemical name	CAS No.	Weight-%
Limestone	1317-65-3	30 - 60
Propylene carbonate	108-32-7	1 - <5
Methylenediphenyl diisocyanate	26447-40-5	0.1 - <1
Quartz	14808-60-7	0.1 - <1
Benzenesulfonyl isocyanate, 4-methyl-	4083-64-1	0.1 - <1
Dibutyltin dilaurate	77-58-7	0.1 - <1

**The exact percentage (concentration) of composition has been withheld as a trade secret*

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4. First-aid measures

4.1. Description of first aid measures

General advice	Show this safety data sheet to the doctor in attendance.
Inhalation	May cause allergic respiratory reaction. Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Get immediate medical attention.
Eye contact	In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. If eye irritation persists: Get medical advice/attention.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Take off contaminated clothing and wash before reuse. May cause sensitization by skin contact. May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a physician.
Ingestion	Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. May produce an allergic reaction. Get immediate medical advice/attention.
Self-protection of the first aider	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Use personal protective equipment as required. See section 8 for more information.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms	May cause allergy or asthma symptoms or breathing difficulties if inhaled. Coughing and/ or wheezing. Itching. Rashes. Hives. Prolonged contact may cause redness and irritation.
Effects of Exposure	No information available.

4.3. Indication of any immediate medical attention and special treatment needed

Note to physicians	May cause sensitization in susceptible persons. Treat symptomatically.
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5. Fire-fighting measures

5.1. Extinguishing media

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Large Fire	CAUTION: Use of water spray when fighting fire may be inefficient.
Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical	Thermal decomposition can lead to release of irritating and toxic gases and vapors. Product is or contains a sensitizer. May cause sensitization by inhalation. May cause sensitization by skin contact.
Hazardous combustion products	Carbon oxides. Carbon dioxide (CO ₂).

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Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Use personal protective equipment as required. Stop leak if you can do it without risk. Do not touch or walk through spilled material. Avoid breathing vapors or mists. Ensure adequate ventilation. Avoid contact with skin, eyes or clothing. Wash thoroughly after handling.

Other information Refer to protective measures listed in Sections 7 and 8.

6.2. Environmental precautions

Environmental precautions Prevent entry into waterways, sewers, basements or confined areas. See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. Contain and collect spillage 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).

Methods for cleaning up Use personal protective equipment as required. Dam up. Cover liquid spill with sand, earth or other noncombustible absorbent material. Take up mechanically, placing in appropriate containers for disposal. Clean contaminated surface thoroughly.

Reference to other sections See section 8 for more information. See section 13 for more information.

7. Handling and storage

7.1. Precautions for safe handling

Advice on safe handling Use personal protective equipment as required. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Remove contaminated clothing and shoes.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children. Protect from moisture.

Recommended storage temperature Keep at temperatures between 50 and 95 °F / 10 and 35 °C.

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7.3 References to other sections

Reference to other sections Section 10: STABILITY AND REACTIVITY
Section 13: DISPOSAL CONSIDERATIONS

8. Exposure controls/personal protection

8.1. Control parameters

Exposure Limits

This product contains substances which in their raw state are powder form, however in this product they are in a non-respirable form. Inhalation of powder/dust particles is unlikely to occur from exposure to this product.

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
Limestone 1317-65-3	-	TWA: 15 mg/m ³ total dust TWA: 5 mg/m ³ respirable fraction (vacated) TWA: 15 mg/m ³ total dust (vacated) TWA: 5 mg/m ³ respirable fraction	TWA: 10 mg/m ³ total dust TWA: 5 mg/m ³ respirable dust
Methylenediphenyl diisocyanate 26447-40-5	-	Ceiling: 0.02 ppm Ceiling: 0.2 mg/m ³	-
Quartz 14808-60-7	TWA: 0.025 mg/m ³ respirable particulate matter	TWA: 50 µg/m ³ (vacated) TWA: 0.1 mg/m ³ respirable dust : (250)/(%SiO ₂ + 5) mppcf TWA respirable fraction : (10)/(%SiO ₂ + 2) mg/m ³ TWA respirable fraction	IDLH: 50 mg/m ³ respirable dust TWA: 0.05 mg/m ³ respirable dust
Dibutyltin dilaurate 77-58-7	TWA: 0.1 mg/m ³ Sn STEL: 0.2 mg/m ³ Sn Sk*	TWA: 0.1 mg/m ³ Sn (vacated) TWA: 0.1 mg/m ³ Sn (vacated) S*	IDLH: 25 mg/m ³ Sn TWA: 0.1 mg/m ³ except Cyhexatin Sn

Chemical name	Argentina	Brazil	Chile	Colombia
Limestone 1317-65-3	TWA: 10 mg/m ³	-	LPP: 7 mg/m ³ LPP: 5 mg/m ³	-
Methylenediphenyl diisocyanate 26447-40-5	TWA: 0.005 ppm	-	LPP: 0.004 ppm LPP: 0.045 mg/m ³	-
Quartz 14808-60-7	TWA: 0.05 mg/m ³	TWA: 0.025 mg/m ³	LPP: 0.08 mg/m ³	TWA: 0.025mg/m ³
Dibutyltin dilaurate 77-58-7	TWA: 0.1 mg/m ³ STEL: 0.2 mg/m ³ Sk*	TWA: 0.1 mg/m ³ STEL: 0.2 mg/m ³	LPP: 0.09 mg/m ³ Sk*	STEL: 0.2mg/m ³ TWA: 0.1mg/m ³

Chemical name	Costa Rica	Peru	Uruguay	Venezuela
Methylenediphenyl diisocyanate 26447-40-5	TWA: 0.005ppm	-	-	-
Quartz 14808-60-7	TWA: 0.025mg/m ³	TWA: 0.05mg/m ³	0.025 mg/m ³ TWA (respirable particulate matter)	TWA: 0.025 mg/m ³
Dibutyltin dilaurate 77-58-7	TWA: 0.1mg/m ³ STEL: 0.2mg/m ³	STEL: 0.2mg/m ³ TWA: 0.1mg/m ³	0.2 mg/m ³ STEL (as Sn) 0.1 mg/m ³ TWA (as Sn)	Skin STEL: 0.2 mg/m ³

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Chemical name	Costa Rica	Peru	Uruguay	Venezuela
				TWA: 0.1 mg/m ³

8.2. Exposure controls

Appropriate engineering controls

Engineering controls Showers
 Eyewash stations
 Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles). Avoid contact with eyes.

Hand protection Wear suitable gloves.

Skin and body protection Wear suitable protective clothing.

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment.

General hygiene considerations Wear suitable gloves and eye/face protection. Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Avoid contact with skin, eyes or clothing. Wash hands before breaks and immediately after handling the product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Regular cleaning of equipment, work area and clothing is recommended.

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state Liquid
Appearance Paste
Color Colorless
Odor No information available
Odor threshold No information available

Property	Values	Remarks • Method
pH	No data available	None known
pH (as aqueous solution)	No data available	None known
Melting point / freezing point	No data available	None known
Initial boiling point and boiling range	No data available	None known
Flash point	> 200 °C / 392 °F	
Evaporation rate	No data available	None known
Flammability	No data available	
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	

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Vapor pressure	No data available	None known
Relative vapor density	No data available	None known
Relative density	No data available	None known
Water solubility	Reacts with water	Product cures with moisture
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known

9.2. Other information

Explosive properties	No information available	
Oxidizing properties	No information available	
Solvent content (%)	No information available	
Solid content (%)	No information available	
Softening point	No information available	
Molecular weight	No information available	
VOC content	1 % < 30 g/L	No information available
Density	1.659 g/cm ³	
Bulk density	No information available	

10. Stability and reactivity

10.1. Reactivity

Reactivity	No information available.
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10.2. Chemical stability

Chemical stability	Stable under normal conditions.
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10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	None under normal processing.
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Hazardous polymerization	Hazardous polymerization may occur.
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10.4. Conditions to avoid

Conditions to avoid	Protect from moisture. Storage near to reactive materials.
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10.5. Incompatible materials

Incompatible materials	Water. Alcohols. Oxidizing agent. Finely powdered metals.
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10.6. Hazardous decomposition products

Hazardous decomposition products	Carbon oxides Nitrogen oxides (NOx) Thermal decomposition can lead to release of irritating and toxic gases and vapors
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11. Toxicological information

11.1. Information on toxicological effects

Product Information

US - EN

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Inhalation	Specific test data for the substance or mixture is not available. May cause sensitization in susceptible persons. (based on components).
Eye contact	Based on available data, the classification criteria are not met.
Skin contact	Specific test data for the substance or mixture is not available. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. (based on components). May cause sensitization by skin contact. Causes mild skin irritation.
Ingestion	Based on available data, the classification criteria are not met. Specific test data for the substance or mixture is not available. May cause additional affects as listed under "Inhalation".

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms	Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, or flushing. Coughing and/ or wheezing. Itching. Rashes. Hives. Prolonged contact may cause redness and irritation.
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Acute toxicity

Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	>5000 mg/kg
ATEmix (dermal)	94,382.90 mg/kg
ATEmix (inhalation-gas)	>20000 ppm
ATEmix (inhalation-dust/mist)	>5 mg/l
ATEmix (inhalation-vapor)	>20 mg/l

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Limestone 1317-65-3	>5000 mg/kg (Rattus)	-	-
Propylene carbonate 108-32-7	LD50 > 5000 mg/kg (Rattus) OECD 401	> 3000 mg/kg (Oryctolagus cuniculus)	-
Methylenediphenyl diisocyanate 26447-40-5	>10000 mg/kg (Rattus)	> 10000 mg/kg (Oryctolagus cuniculus)	=490 mg/m ³ (Rattus) 4 h
Quartz 14808-60-7	>2000 mg/kg (Rattus)	-	-
Benzenesulfonyl isocyanate, 4-methyl- 4083-64-1	=2234 mg/kg (Rattus)	LD 50 (Rattus) > 2000 mg/kg OECD 402	>640 ppm (Rattus) 1 h
Dibutyltin dilaurate 77-58-7	=2071 mg/kg (Rattus) OECD 401	> 2000 mg/kg (Rattus)	-

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	Classification based on data available for ingredients. Causes mild skin irritation.
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Serious eye damage/eye irritation	Based on available data, the classification criteria are not met.
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Respiratory or skin sensitization May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.

Germ cell mutagenicity Based on available data, the classification criteria are not met.

Carcinogenicity This product contains substances which in their raw state are powder form, however in this product they are in a non-respirable form. Inhalation of powder/dust particles is unlikely to occur from exposure to this product.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
Methylenediphenyl diisocyanate 26447-40-5	-	Group 3	-	-
Quartz 14808-60-7	A2	Group 1	Known	X

Legend

IARC (International Agency for Research on Cancer)

Group 3 - Not Classifiable as to Carcinogenicity in Humans

Methylenediphenyl diisocyanate (26447-40-5)

Method	Species	Results
	in vivo	Limited evidence of a carcinogenic effect

Reproductive toxicity Contains a known or suspected reproductive toxin. Classification based on data available for ingredients. May damage fertility or the unborn child.

STOT - single exposure Based on available data, the classification criteria are not met.

STOT - repeated exposure Based on available data, the classification criteria are not met.

Target organ effects Respiratory system, Eyes, Skin.

Aspiration hazard Based on available data, the classification criteria are not met.

Other adverse effects No information available.

Interactive effects No information available.

12. Ecological information

12.1. Toxicity

Ecotoxicity

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Limestone 1317-65-3	CE50 (72h) >200mg/L Algae (Desmodesmus subspicatus)	CL50 (96h)>10000mg/L (Oncorhynchus mykiss)	-	CE50 (48h) >1000 mg/L Daphnia Magna
Propylene carbonate 108-32-7	ErC50 (72h): > 900mg/L (Desmodesmus	LC50 (96) h > 1000 mg/L (Cyprinus carpio,	EC50 > 10000 mg/L 17 h	EC50 (48h): > 1000mg/L (Daphnia magna, OECD

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	subspicatus, OECD-201)	67/548/EWG, Annex V, C.1.)		202)
Methylenediphenyl diisocyanate 26447-40-5	EC50: =3230mg/L (96h, Skeletonema costatum)	-	-	EC50: >1000mg/L (24h, Daphnia magna)
Dibutyltin dilaurate 77-58-7	EC50 1 (72h) mg/L (desmodesmus subspicatus)	LC50: =2mg/L (48h, Oryzias latipes)	-	0,463 (48h) mg/L (daphnia magna)

12.2. Persistence and degradability

Persistence and degradability No information available.

12.3. Bioaccumulative potential

Bioaccumulation There is no data for this product.

Component Information

Chemical name	Partition coefficient
Limestone 1317-65-3	0.9
Propylene carbonate 108-32-7	-0.41
Methylenediphenyl diisocyanate 26447-40-5	4.5
Benzenesulfonyl isocyanate, 4-methyl- 4083-64-1	0.6
Dibutyltin dilaurate 77-58-7	4.44

12.4. Mobility in soil

Mobility No information available.

Other adverse effects

Other adverse effects No information available.

13. Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused products It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Contaminated packaging Dispose of in accordance with federal, state and local regulations.

14. Transport information

Note: Keep from freezing.

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DOT Not regulated

IATA Not regulated

IMDG Not regulated

15. Regulatory information

International Inventories

TSCA	Listed
DSL	Listed

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL - Canadian Domestic Substances List

Listed - The components of this product are either listed or exempt from listing on inventory.

Not Listed - One or more components of this product are not listed on inventory.

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

Chemical name	CAS No.	SARA 313 - Threshold Values %
Methylenediphenyl diisocyanate	26447-40-5	1.0

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

Europe

Restrictions of Use of Hazardous Substances (RoHS) Directive 2011/65/EU

This product does not contain Lead, Cadmium, Mercury, Hexavalent chromium, Polybrominated biphenyls (PBB), Polybrominated diphenyl ethers (PBDE), Bis(2-Ethylhexyl) phthalate (DEHP), Benzyl butyl phthalate (BBP), Dibutyl phthalate (DBP) and Diisobutyl phthalate (DIBP) above the regulated limit mentioned in this regulation. This document is based on the information given to us by our own suppliers at the date of this document.

SVHC: Substances of Very High Concern for Authorization:

This product does not contain candidate substances of very high concern at a concentration $\geq 0.1\%$ (Regulation (EC) No. 1907/2006 (REACH), Article 59)

16. Other information

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA TWA (time-weighted average)
Ceiling Maximum limit value

STEL
Sk*

STEL (Short Term Exposure Limit)
Skin designation

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Revision Note No information available.

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End of Safety Data Sheet