

**Safety Data Sheet
Quad-Cure SS****Revision Date:
3 September, 2026****Section 1. Identification****Product identifier****Product Identity**

Quad-Cure SS

Other means of identification

Quad-Cure Summer

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

Two-component sodium silicate resin system for rehabilitation and protection of water and wastewater infrastructure.

Details of the supplier of the safety data sheet**Company Name**

United Felts
450 College Drive
Martinsville, VA 24112

Emergency**24 hour Emergency Telephone No.**

Emergency Contact 276-658-1904

Customer Service:

276-658-1904

Section 2. Hazard(s) identification**Classification of the substance or mixture under OSHA's Hazard Communication Standard (1910.1200) revised 2024 (GHS revision 7)**

Acute toxicity(oral), category 4;H302

Harmful if swallowed.

Acute toxicity(inhalation), category 4;H332

Harmful if inhaled.

Skin corrosion/irritation category 2;H315

Causes skin irritation.

Serious eye damage / eye irritation, category 2A;H319

Causes serious eye irritation.

Skin sensitizer category 1;H317

May cause an allergic skin reaction.

Respiratory sensitization, category 1;H334

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Carcinogen, category 2;H351

Suspected of causing cancer.

Specific target organ toxicity, Single exposure category 3;H335

May cause respiratory irritation.

Specific target organ toxicity, repeated exposure category 2;H373

May cause damage to organs through prolonged or repeated exposure. Specific Target Organs: (respiratory system)

Label elements

**Danger**

H302 Harmful if swallowed.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H332 Harmful if inhaled.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H335 May cause respiratory irritation.

H351 Suspected of causing cancer.

H373 May cause damage to organs through prolonged or repeated exposure.

[Prevention]

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P233 Keep container tightly closed.

P260 Do not breathe dust, fume, mist, vapors or spray.

P264 Wash thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

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, eye protection, and face protection.

P284 In case of inadequate ventilation, wear respiratory protection.

[Response]

P301+312 IF SWALLOWED: Call a POISON CENTER, doctor or physician if you feel unwell.

P302+352 IF ON SKIN: Wash with plenty of soap and water.

P304+340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308+313 IF exposed or concerned: Get medical advice or attention.

P314 Get medical advice or attention if you feel unwell.

P330 Rinse mouth.

P333+313 If skin irritation or a rash occurs: Get medical advice or attention.

P337+313 If eye irritation persists: Get medical advice or attention.

P342+311 If experiencing respiratory symptoms: Call a POISON CENTER, doctor or physician.

P362+364 Take off contaminated clothing and wash it before reuse.

[Storage]

P403+233 Store in a well ventilated place. Keep container tightly closed.

P405 Store locked up.

[Disposal]

P501 Dispose of contents or container in accordance with local and national regulations.

Other hazards

This product contains no PBT/vPvB/vPvM chemicals.

This product contains no endocrine disrupting chemicals.

Does NOT contain component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS) per the US EPA PFASMASTER combined list of PFAS chemicals.

Section 3. Composition/information on ingredients

This product contains the following substances that present a hazard within the meaning of the OSHA’s Hazard Communication Standard (1910.1200) revised 2024 (GHS revision 7).

Ingredient/Chemical Designations	Weight %	GHS Classification	Notes
Diphenylmethanediisocyanate (isomers and homologues) CAS Number: 9016-87-9 Synonyms: Isocyanic acid, polymethylenepolyphenylene ester, Polymeric Diphenylmethane Diisocyanate, Reaction product of formaldehyde, polymer with aniline and phosgene, polymethylenpolyfenylisokyanát	65 - 85	Carcinogen, category 2;H351 Acute toxicity(inhalation), category 4;H332 Specific target organ toxicity, Single exposure category 3;H335 Specific target organ toxicity, repeated exposure category 2;H373 Skin corrosion/irritation category 2;H315 Serious eye damage / eye irritation, category 2;H319 Respiratory sensitization, category 1;H334 Skin sensitizer category 1;H317	No data available
Reaction products of Phosphoryl trichloride and 2-Methyloxirane CAS Number: 1244733-77-4 Synonyms: TCPP, tris(2-chloro-1-methylethyl) phosphate, Phosphorous oxychloride, reaction products with propylene oxide	10 - 30	Carcinogen, category 2;H351 Acute toxicity(oral), category 4;H302 Aquatic toxicity (chronic), category 3;H412	No data available
HDI Homopolymer CAS Number: 28182-81-2 Synonyms: HDI polyme đồng nhất, Hexamethylene diisocyanate, oligomers, Hexamethylene-1,6-diisocyanate Homopolymer, Hexamethylene diisocyanate, aliphatic polyisocyanate, Hexamethylene diisocyanate, oli-gomers, polisocianato alifatico, Hexamethylendiisocyanat, oligomere, Hexamethylene diisocyanate, biuret-type oligomer, Hexamethylene diisocyanate, oligomerisation product, Poly(hexamethylene diisocyanate), Polyhexamethylene diisocyanate, oligomers, Hexane, 1,6-diisocyanato-, homopolymer, HEXAMETHYLENE DIISOCYANATE HOMOPOLYMER, hexamethylen-diisokyanat, oligomery, HDI oligomers, isocyanurate, 1,6-Hexamethylene diisocyanate polycyclotrimer, unknown, Esamethylene diisocyanate homopolymer, Hexamethylene diisocyanate,oligomers, 1,6-Diisocyanatohexane homopolymer, Polymer aus Hexamethylen-1,6-diisocyanat, HEXANE-1;6-DI-ISOCYANATE; HOMOPOLYMER, 1-{6-[3,5-bis(6-isocyanatohexyl)-2,4-dioxo-1,3,5-triazinan-1-yl]hexyl}-3,5-bis(6-isocyanatohexyl)-1,3,5-triazinane-2,4,6-trione; 1-{6-[5-(6-{[3,5-bis(6-isocyanatohexyl)-2,4,6-trioxo-1,3,5-triazinan-1-yl]amino}hexyl)-3-(6-isocyanatohexyl)-2,4-dioxo-1,3,5-triazinan-1-yl]hexyl}-3,5-bis(6-isocyanatohexyl)-1,3,5-triazinane-2,4,6-trione; tris(6-isocyanatohexyl)-1,3,5-triazinane-2,4,6-trione, Hexane, 1,6-diisocyanato-,homopolymer, Homopolymer of Hexamethylene diisocyanate, HEXANE-1,6-DI-ISOCYANATE HOMOPOLYMER, HDI oligomers, biuret, POLY(HEXAMETHYLENE) DIISOCYANATE, 1,6-diisocyanatohexane, hexamethylene-diisocyanate, homopolymer, Hexamethylene Diisocyanate Polymer, Hexamethylen-1,6-diisocyanat homopolymer	0.5 - 1.5	Skin sensitizer category 1;H317 Acute toxicity(inhalation), category 4;H332 Specific target organ toxicity, Single exposure category 3;H335	No data available

The actual concentration or concentration range is withheld as a trade secret.
*PBT/vPvB - PBT, vPvM or vPvB-substance.
The full texts of the phrases are shown in Section 16.

Section 4. First aid measures

Description of first aid measures

General	In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.
Inhalation	Remove to fresh air, keep patient warm and at rest. If breathing is irregular or stopped, give artificial respiration. If unconscious, place in the recovery position and obtain immediate medical attention. Give nothing by mouth.
Eyes	Irrigate copiously with clean water for at least 15 minutes, holding the eyelids apart and seek medical attention.

Skin	Remove contaminated clothing. Wash skin thoroughly with soap and water or use a recognized skin cleanser.
Ingestion	If swallowed obtain immediate medical attention. Keep at rest. Do NOT induce vomiting.
Most important symptoms and effects, both acute and delayed	
Overview	No specific symptom data available. Possible cancer hazard. Contains an ingredient which may cause cancer based on animal data (See Section 3 and Section 15 for each ingredient). Risk of cancer depends on duration and level of exposure. Treat symptomatically. See section 2 for further details.
Inhalation	Harmful if inhaled. May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Eyes	Causes serious eye irritation.
Skin	May cause an allergic skin reaction. Causes skin irritation.
Ingestion	Harmful if swallowed.

Section 5. Fire-fighting measures

Extinguishing media

Recommended extinguishing media; alcohol resistant foam, CO₂, powder, water spray.

Unsuitable extinguishing media: Do not use; water jet.

Special hazards arising from the substance or mixture

Hazardous decomposition: No hazardous decomposition data available.

Keep container tightly closed.

Do not breathe dust, fume, mist, vapors or spray.

Advice for fire-fighters

As with all fires, wear positive pressure, self-contained breathing apparatus, (SCBA) with a full face piece and protective clothing. Persons without respiratory protection should leave area. Wear SCBA during clean-up immediately after fire. No smoking.

ERG Guide No. ----

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Put on appropriate personal protective equipment (see section 8).

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

Environmental precautions

Do not allow spills to enter drains or waterways.

Methods and material for containment and cleaning up

Ventilate the area and avoid breathing vapors. Take the personal protective measures listed in section 8. Contain and absorb spillage with non-combustible materials e.g. sand, earth, vermiculite. Place in a suitable container. The contaminated area should be cleaned up immediately with a suitable decontaminant. One possible (flammable) decontaminant comprises (by volume): water (45 parts), ethanol or isopropyl alcohol (50 parts), concentrated (d:0,880) ammonia solution (5 parts). A non-flammable alternative is sodium carbonate (5 parts), water (95 parts). Add the same decontaminant to any residues and allow to stand for several days in a non-sealed container until no further reaction occurs. Once this stage is reached, close

container and dispose of in accordance with the waste regulations (see section 13). Do not allow spills to enter drains or watercourses. If drains or sewers are contaminated, inform the local water company immediately. In the case of contamination of rivers, streams or lakes the Environmental Protection Agency should also be informed.

Section 7. Handling and storage

Precautions for safe handling

Handle containers carefully to prevent damage and spillage.

Precautions should be taken to minimize exposure to atmospheric humidity or water as carbon dioxide may be formed which, in closed containers can result in pressurization. Care should be taken when re-opening partly used containers.

See section 2 for further details. - [Prevention]

Conditions for safe storage, including any incompatibilities

Persons with a history of asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this preparation is used.

Examination of lung function should be carried out on a regular basis on persons applying this preparation.

Incompatible materials: No available information

See section 2 for further details. - [Storage]

Specific end use(s)

Two-component sodium silicate resin system for rehabilitation and protection of water and wastewater infrastructure.

Section 8. Exposure controls / personal protection

Control parameters

Exposure Limits

CAS No.	Ingredient	Source	Value
9016-87-9	Diphenylmethanediisocyanate (isomers and homologues)	OSHA	No Established Limit
		ACGIH	No Established Limit
		NIOSH	No Established Limit
28182-81-2	HDI Homopolymer	OSHA	No Established Limit
		ACGIH	No Established Limit
		NIOSH	No Established Limit
1244733-77-4	Reaction products of Phosphoryl trichloride and 2-Methyloxirane	OSHA	No Established Limit
		ACGIH	No Established Limit
		NIOSH	No Established Limit

Exposure controls

Respiratory

When concentrations exceed the exposure limits shown above workers must wear appropriate respirators approved in accordance with Directive 89/656/EEC and the Personal Protection Equipment Regulations. Provision of other controls such as exhaust ventilation should be considered if practical.

An air fed respirator must be worn when applying this product in a confined space. Even in open spaces, an air fed respirator should be worn when spraying. If applying by brush or roller in an open, well ventilated area, air fed respirators could be replaced by a charcoal filter mask.

Eyes	Protective safety glasses recommended
Skin	Avoid skin contact. Protective gloves recommended.
Engineering Controls	Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and any vapor below occupational exposure limits suitable respiratory protection must be worn. Provide adequate ventilation. This should be achieved by the use of local exhaust ventilation and good general extraction. Air-fed protective respiratory equipment must be worn by spray operators even when good ventilation is provided. In other operations, if local exhaust ventilation and good general extraction are not sufficient to maintain concentrations of particulates and solvent vapor below the WEL, suitable respiratory protection must be worn. (See Personal Protection)

Persons with a history of asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this preparation is used.

Examination of lung function should be carried out on a regular basis on persons spraying this preparation.

Other Work Practices Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

See section 2 for further details.

Section 9. Physical and chemical properties

Information on basic physical and chemical properties

Physical State	Liquid
Color	No available information
Odor	No available information
Odor threshold	No available information
Melting point / freezing point	No available information
Initial boiling point and boiling range	No available information
Flammability (solid, gas)	Not Applicable
Upper/lower flammability or explosive limits	Lower Explosive Limit: No available information Upper Explosive Limit: No available information
Flash Point	No available information
Auto-ignition temperature	No available information
Decomposition temperature	No available information
pH	No available information
Kinematic viscosity	No available information
Solubility in Water	No available information
Partition coefficient n-octanol/water (Log Kow)	No available information
Vapor pressure (Pa)	No available information
Relative Density	No available information
Vapor Density	No available information
Evaporation rate (Ether = 1)	No available information
Oxidising properties	No available information

Explosive properties

No available information

Other information

No other relevant information.

Section 10. Stability and reactivity**Reactivity**

Hazardous Polymerization will not occur.

Chemical stability

Stable under recommended storage and handling conditions (see section 7). In a fire, hazardous decomposition products such as smoke, carbon monoxide, carbon dioxide, oxides of nitrogen, hydrogen cyanide may be produced.

Keep away from oxidising agents, strongly alkaline and strongly acid materials, amines, alcohols and water. Uncontrolled exothermic reactions occur with amines and alcohols. The product reacts slowly with water resulting in evolution of carbon dioxide. In closed containers, pressure build up could result in distortion, blowing and in extreme cases bursting of the container.

Possibility of hazardous reactions

No available information

Conditions to avoid

Avoid high temperatures and contact with incompatible material

Incompatible materials

No available information

Hazardous decomposition products

No hazardous decomposition data available.

Section 11. Toxicological information**Acute toxicity**

Based on the properties of the isocyanate content of this product, respiratory exposure may cause acute irritation and/or sensitization of the respiratory system resulting in asthmatic symptoms, wheezing and a tightness of the chest. Sensitized persons may subsequently show asthmatic symptoms when exposed to airborne concentrations of isocyanates well below the occupational exposure limit. Repeated exposure may lead to permanent respiratory disability.

ATE (Oral) 420 mg/kg. 0.0 % of the mixture consists of an ingredient of unknown toxicity to this route of entry.

ATE (dermal) Not Applicable. 0.0 % of the mixture consists of an ingredient of unknown toxicity to this route of entry.

ATE (Inhalation) 11 mg/L/4hr (vapor). 0.0 % of the mixture consists of an ingredient of unknown toxicity to this route of entry.

Note: When no route specific LD50 data is available for an acute toxin, the converted acute toxicity point estimate was used in the calculation of the product's ATE (Acute Toxicity Estimate).

Ingredient	Oral LD50, mg/kg	Skin LD50, mg/kg	Inhalation Vapor LC50, mg/L/4hr	Inhalation Dust/Mist LC50, mg/L/4hr	Inhalation Gas LC50, ppm
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Diphenylmethanediisocyanate (isomers and homologues) - (9016-87-9)	49,000.00, Rat - Category: NA	9,400.00, Rabbit - Category: NA	No data available.	No data available.	No data available.
Reaction products of Phosphoryl trichloride and 2-Methyloxirane - (1244733-77-4)	63.00, Rat - Category: 3	> 2,000.00, Rabbit - Category: NA	7.00, Rat - Category: 3	No data available.	No data available.
HDI Homopolymer - (28182-81-2)	5,000.00, Rat - Category: 5	No data available.	No data available.	1.50, ATE Estimate - Category: 4	No data available.

Carcinogen Data

CAS No.	Ingredient	Source	Value
9016-87-9	Diphenylmethanediisocyanate (isomers and homologues)	OSHA	Regulated Carcinogen: No;
		NTP	Known: No; Suspected: No;
		IARC	Group 3
		ACGIH	No Established Limit
28182-81-2	HDI Homopolymer	OSHA	Regulated Carcinogen: No;
		NTP	Known: No; Suspected: No;
		IARC	No
		ACGIH	No Established Limit
1244733-77-4	Reaction products of Phosphoryl trichloride and 2-Methyloxirane	OSHA	Regulated Carcinogen: No;
		NTP	Known: No; Suspected: No;
		IARC	No
		ACGIH	No Established Limit

Classification	Category	Hazard Description
Acute toxicity (oral)	4	Harmful if swallowed.
Acute toxicity (dermal)	---	Not Applicable
Acute toxicity (inhalation)	4	Harmful if inhaled.
Skin corrosion/irritation	2	Causes skin irritation.
Serious eye damage/irritation	2A	Causes serious eye irritation.
Respiratory sensitization	1	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin sensitization	1	May cause an allergic skin reaction.
Germ cell mutagenicity	---	Not Applicable
Carcinogenicity	2	Suspected of causing cancer.
Reproductive toxicity	---	Not Applicable
STOT-single exposure	---	Not Applicable
STOT-single exposure (3)	3	May cause respiratory irritation.
STOT-repeated exposure	2	May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard	---	Not Applicable

Possible routes of entry:

Inhalation, ingestion, skin contact, and skin absorption.

Symptoms and effects, both acute and delayed:

No specific symptom data available.

Possible cancer hazard. Contains an ingredient which may cause cancer based on animal data (See Section 3 and Section 15 for each ingredient). Risk of cancer depends on duration and level of exposure.

Treat symptomatically.

Inhalation

Harmful if inhaled. May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Eyes

Causes serious eye irritation.

Skin

May cause an allergic skin reaction. Causes skin irritation.

Ingestion

Harmful if swallowed.

Section 12. Ecological information

Toxicity

No additional information provided for this product. See Section 3 for chemical specific data.

Aquatic Ecotoxicity

Ingredient	96 hr LC50 fish, mg/L	48 hr EC50 crustacea, mg/L	ErC50 algae, mg/L
Diphenylmethanediisocyanate (isomers and homologues) - (9016-87-9)	1,000.00, Danio rerio	1,000.00, Daphnia magna	No data available.
Reaction products of Phosphoryl trichloride and 2-Methyloxirane - (1244733-77-4)	56.20, Fish (Piscis)	131.00, crustacea	82.00, Algae
HDI Homopolymer - (28182-81-2)	100.00, Danio rerio	100.00, Daphnia magna	100.00, Scenedesmus subspicatus

Persistence and degradability

There is no data available on the preparation itself.

Bioaccumulative potential

No available information

Mobility in soil

No available information

Results of PBT and vPvB assessment

This product contains no PBT/vPvB/vPvM chemicals.

Other adverse effects

No available information

Section 13. Disposal considerations

Waste treatment methods

Observe all federal, provincial and local regulations when disposing of this substance.

Section 14. Transport information

	DOT (Domestic Surface Transportation)	IMO / IMDG (Ocean Transportation)	ICAO/IATA
UN number	Not Regulated	Not Regulated	Not Regulated
UN proper shipping name	Not Regulated	Not Regulated	Not Regulated
Transport hazard class(es)	Class: Not Applicable Sub Class: Not Applicable	Class: Not Applicable Sub Class: Not Applicable	Class: Not Applicable Sub Class: Not Applicable
Packing group	Not Applicable	Not Applicable	Not Applicable
Environmental hazards	IMDG Marine Pollutant: No;		
Special precautions for user	No available information		

Section 15. Regulatory information

Regulatory Overview The regulatory data in Section 15 is not intended to be all-inclusive, only selected regulations are represented.

Classification of the substance or mixture under OSHA's Hazard Communication Standard (1910.1200) revised 2024 (GHS revision 7)

Toxic Substance Control Act (TSCA)

CAS Number	Ingredient	Toxic Substance Control Act (TSCA)	Comments	Status
0009016-87-9	Diphenylmethanediisocyanate (isomers and homologues)	Yes	XU	ACTIVE
0028182-81-2	HDI Homopolymer	Yes	XU	ACTIVE
1244733-77-4	Reaction products of Phosphoryl trichloride and 2-Methyloxirane	No		

EPCRA 302 Extremely Hazardous:

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

EPCRA 313 Toxic Chemicals:

Diphenylmethanediisocyanate (isomers and homologues)

Proposition 65 - Carcinogens (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Developmental Toxins (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Female Repro Toxins (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Male Repro Toxins (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 Label Warning:

This product contains no chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Section 16. Other information

Revision Date 3 September, 2026

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to our products. Customers/users of this product must comply with all applicable health and safety laws, regulations, and orders.

The full text of the phrases appearing in section 3 is:

H302 Harmful if swallowed.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H332 Harmful if inhaled.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H335 May cause respiratory irritation.

H351 Suspected of causing cancer.

H373 May cause damage to organs through prolonged or repeated exposure.

H412 Harmful to aquatic life with long lasting effects.

Disclaimer: The information presented herein is supplied as a guide to those who handles or use this product. Safe work practices must be employed when working with any materials. It is important that the end user makes a determination regarding the adequacy of the safety procedures employed during the use of this product.

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