

Section 1. Identification**Product identifier****Product Identity**

Quad-Cure 4160 Part B

Other means of identification

Not Applicable

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

100% solids epoxy resin system for cured-in-place pipe (CIPP) lining and trenchless pipe rehabilitation.

Details of the supplier of the safety data sheet**Company Name**Quadex, LLC (a Vortex company)
564 W. 9320 S.,
Sandy, UT 84070**Emergency****24 hour Emergency Telephone No.**Domestic Shipments and to Canada: 1-800-633-8253
International Shipments: 1-801-629-0667**Customer Service:**

844-782-4832

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(dermal), category 3;H311

Toxic in contact with skin.

Skin corrosion/irritation category 1B;H314

Causes severe skin burns and eye damage.

Serious eye damage / eye irritation,
category 1;H318

Causes serious eye damage.

Skin sensitizer category 1;H317

May cause an allergic skin reaction.

Reproductive toxicity, category 2;H361D

Suspected of damaging the unborn child.

Specific target organ toxicity, repeated
exposure category 2;H373

May cause damage to organs through prolonged or repeated exposure.

Aquatic toxicity (acute), category 2;H401

Toxic to aquatic life.

Aquatic toxicity (chronic), category
3;H412

Harmful to aquatic life with long lasting effects.

Label elements**Danger**

H302 Harmful if swallowed.
H311 Toxic in contact with skin.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H361d Suspected of damaging the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.
H401 Toxic to aquatic life.
H412 Harmful to aquatic life with long lasting effects.

[Prevention]

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
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.
P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves, protective clothing, eye protection, face 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.
P303+361+353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
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.
P310 Immediately call a POISON CENTER, doctor or physician.
P312 Call a POISON CENTER, doctor or physician if you feel unwell.
P314 Get Medical advice or attention if you feel unwell.
P301+330+331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P333+313 If skin irritation or a rash occurs: Get medical advice or attention.
P361+364 Take off immediately all contaminated clothing and wash it before reuse.
P362+364 Take off contaminated clothing and wash it before reuse.
P363 Wash contaminated clothing before reuse.

[Storage]

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
Primary amine CAS Number: Proprietary Synonyms: No available information	30 - 60	Acute toxicity(oral), category 4;H302 Acute toxicity(dermal), category 3;H311 Skin corrosion/irritation category 1B;H314 Serious eye damage / eye irritation, category 1;H318 Skin sensitizer category 1;H317 Reproductive toxicity, category 2;H361 Specific target organ toxicity, repeated exposure category 2;H373	No data available
polyalkylenepolyamino fatty acid amide CAS Number: Proprietary Synonyms: No available information	10 - 30	Acute toxicity(oral), category 4;H302 Skin corrosion/irritation category 1B;H314 Serious eye damage / eye irritation, category 1;H318 Skin sensitizer category 1;H317 Aquatic toxicity (acute), category 1;H400 Aquatic toxicity (chronic), category 2;H411	No data available
4,4'-Diaminodicyclohexylmethane CAS Number: 1761-71-3 Synonyms: 4,4'-methylenebis(cyclohexylamine), 4,4'-디아미노디시클로헥실메탄, Cyclohexanamine, 4,4'-methylenebis-	10 - 30	Acute toxicity(oral), category 4;H302 Skin sensitizer category 1;H317 Skin corrosion/irritation category 1B;H314	No data available
Polyetherdiamine CAS Number: Proprietary Synonyms: No available information	7 - 13	Not Provided	No data available
Amorphous silica, hydrophobic CAS Number: 67762-90-7 Synonyms: Silicones and siloxanes, dimethyl-, reaction products with silica	3 - 7	Not Classified	No data available
Cycloaliphatic amine CAS Number: Proprietary Synonyms: No available information	1 - 5	Not Provided	No data available
Salicylic acid CAS Number: 69-72-7 Synonyms: No available information	0.5 - 1.5	Acute toxicity(oral), category 4;H302 Serious eye damage / eye irritation, category 1;H318 Reproductive toxicity, category 2;H361D	No data available
Amines CAS Number: Proprietary Synonyms: No available information	0.5 - 1.5	Not Provided	No data available
Polyalkylenepolyamine CAS Number: Proprietary Synonyms: No available information	0.5 - 1.5	Not Provided	No data available
1,3-propanediamine, n,n''-1,2-ethanediylbis- CAS Number: 10563-26-5 Synonyms: No available information	0.5 - 1.5	Acute toxicity(oral), category 4;H302 Acute toxicity(dermal), category 3;H311 Skin corrosion/irritation category 1;H314 Skin sensitizer category 1;H317 Serious eye damage / eye irritation, category 1;H318	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. Reproductive or genetic defect hazard. Treat symptomatically. See section 2 for further details.
Eyes	Causes serious eye damage.
Skin	Toxic in contact with skin. May cause an allergic skin reaction. Causes severe skin burns and eye damage.
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.

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. 153

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, and vermiculite. Place in closed containers outside buildings and dispose of according to the Waste Regulations.

Section 7. Handling and storage

Precautions for safe handling

Handle containers carefully to prevent damage and spillage.

See section 2 for further details. - [Prevention]

Conditions for safe storage, including any incompatibilities

Incompatible materials: No available information

See section 2 for further details. - [Storage]

Specific end use(s)

100% solids epoxy resin system for cured-in-place pipe (CIPP) lining and trenchless pipe rehabilitation.

Section 8. Exposure controls / personal protection

Control parameters

CAS No.	Ingredient	Exposure Limits	
		Source	Value
69-72-7	Salicylic acid	OSHA	No Established Limit
		ACGIH	No Established Limit
		NIOSH	No Established Limit
1761-71-3	4,4'-Diaminodicyclohexylmethane	OSHA	No Established Limit
		ACGIH	No Established Limit
		NIOSH	No Established Limit
10563-26-5	1,3-propanediamine, n,n"-1,2-ethanediylbis-	OSHA	No Established Limit
		ACGIH	No Established Limit
		NIOSH	No Established Limit
67762-90-7	Amorphous silica, hydrophobic	OSHA	No Established Limit
		ACGIH	No Established Limit
		NIOSH	No Established Limit
Proprietary	Primary amine	OSHA	No Established Limit
		ACGIH	No Established Limit
		NIOSH	No Established Limit
Proprietary	Amines	OSHA	No Established Limit
		ACGIH	No Established Limit
		NIOSH	No Established Limit
Proprietary	Polyalkylenepolyamine	OSHA	No Established Limit
		ACGIH	No Established Limit
		NIOSH	No Established Limit
Proprietary	polyalkylenepolyamino fatty acid amide	OSHA	No Established Limit
		ACGIH	No Established Limit
		NIOSH	No Established Limit
Proprietary	Cycloaliphatic amine	OSHA	No Established Limit
		ACGIH	No Established Limit
		NIOSH	No Established Limit
Proprietary	Polyetherdiamine	OSHA	No Established Limit
		ACGIH	No Established Limit
		NIOSH	No Established Limit

Exposure controls

Respiratory

If workers are exposed to concentrations above the exposure limit they must use the appropriate, certified respirators.

Eyes

Protective safety glasses recommended

Skin

Avoid skin contact. Wear PVC or rubber gloves to keep skin contact to a minimum. Refer to the manufacturer's recommendations regarding the suitability of any gloves used.

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.

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
Viscosity (cSt)	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 normal circumstances.

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

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
Primary amine - (Proprietary)	1,115.00, ATE Estimate - Category: 4	216.00, ATE Estimate - Category: 3	No data available.	No data available.	No data available.
polyalkylenepolyamino fatty acid amide - (Proprietary)	1,217.47, ATE Estimate - Category: 4	3,920.28, ATE Estimate - Category: 5	No data available.	No data available.	No data available.
4,4'-Diaminodicyclohexylmethane - (1761-71-3)	1,000.00, Rat - Category: 4	2,110.00, Rabbit - Category: 5	No data available.	No data available.	No data available.
Polyetherdiamine - (Proprietary)	1,217.47, ATE Estimate - Category: 4	3,920.28, ATE Estimate - Category: 5	No data available.	No data available.	No data available.
Amorphous silica, hydrophobic - (67762-90-7)	No data available.	> 2,000.00, Rat - Category: NA	No data available.	No data available.	No data available.
Cycloaliphatic amine - (Proprietary)	1,217.47, ATE Estimate - Category: 4	3,920.28, ATE Estimate - Category: 5	No data available.	No data available.	No data available.
Salicylic acid - (69-72-7)	891.00, Rat - Category: 4	10,000.00, Rabbit - Category: NA	No data available.	No data available.	No data available.
Amines - (Proprietary)	1,115.00, ATE Estimate - Category: 4	216.00, ATE Estimate - Category: 3	No data available.	No data available.	No data available.
Polyalkylenepolyamine - (Proprietary)	1,115.00, ATE Estimate - Category: 4	216.00, ATE Estimate - Category: 3	No data available.	No data available.	No data available.
1,3-propanediamine, n,n"-1,2-ethanediybis- - (10563-26-5)	No data available.	No data available.	No data available.	No data available.	No data available.

Carcinogen Data

CAS No.	Ingredient	Source	Value
69-72-7	Salicylic acid	OSHA	Regulated Carcinogen: No;
		NTP	Known: No; Suspected: No;
		IARC	No
		ACGIH	No Established Limit
1761-71-3	4,4'-Diaminodicyclohexylmethane	OSHA	Regulated Carcinogen: No;
		NTP	Known: No; Suspected: No;
		IARC	No
		ACGIH	No Established Limit
10563-26-5	1,3-propanediamine, n,n"-1,2-ethanediybis-	OSHA	Regulated Carcinogen: No;
		NTP	Known: No; Suspected: No;
		IARC	No
		ACGIH	No Established Limit
67762-90-7	Amorphous silica, hydrophobic	OSHA	Regulated Carcinogen: No;
		NTP	Known: No; Suspected: No;
		IARC	No
		ACGIH	No Established Limit
Proprietary	Primary amine	OSHA	Regulated Carcinogen: No;
		NTP	Known: No; Suspected: No;
		IARC	No
		ACGIH	No Established Limit
Proprietary	Amines	OSHA	Regulated Carcinogen: No;
		NTP	Known: No; Suspected: No;
		IARC	No

Proprietary	Polyalkylenepolyamine	ACGIH	No Established Limit
		OSHA	Regulated Carcinogen: No;
		NTP	Known: No; Suspected: No;
		IARC	No
Proprietary	polyalkylenepolyamino fatty acid amide	ACGIH	No Established Limit
		OSHA	Regulated Carcinogen: No;
		NTP	Known: No; Suspected: No;
		IARC	No
Proprietary	Cycloaliphatic amine	ACGIH	No Established Limit
		OSHA	Regulated Carcinogen: No;
		NTP	Known: No; Suspected: No;
		IARC	No
Proprietary	Polyetherdiamine	ACGIH	No Established Limit
		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)	3	Toxic in contact with skin.
Acute toxicity (inhalation)	---	Not Applicable
Skin corrosion/irritation	1B	Causes severe skin burns and eye damage.
Serious eye damage/irritation	1	Causes serious eye damage.
Respiratory sensitization	---	Not Applicable
Skin sensitization	1	May cause an allergic skin reaction.
Germ cell mutagenicity	---	Not Applicable
Carcinogenicity	---	Not Applicable
Reproductive toxicity	2	Suspected of damaging the unborn child.
STOT-single exposure	---	Not Applicable
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.

Reproductive or genetic defect hazard. Treat symptomatically.

Eyes Causes serious eye damage.

Skin Toxic in contact with skin. May cause an allergic skin reaction. Causes severe skin burns and eye damage.

Ingestion Harmful if swallowed.

Section 12. Ecological information

Toxicity

Harmful to aquatic life with long lasting effects.

Aquatic Ecotoxicity

Ingredient	96 hr LC50 fish, mg/L	48 hr EC50 crustacea, mg/L	ErC50 algae, mg/L
Primary amine - (Proprietary)	No data available.	No data available.	No data available.

polyalkylenepolyamino fatty acid amide - (Proprietary)	0.19, Danio rerio	17.10, Daphnia magna	0.51, Pseudokirchneriella subcapitata
4,4'-Diaminodicyclohexylmethane - (1761-71-3)	46.00, Leuciscus idus	6.84, Daphnia magna	140.00, Algae
Polyetherdiamine - (Proprietary)	772.14, Fish	418.34, Daphnia	15.00, Algae
Amorphous silica, hydrophobic - (67762-90-7)	> 5,000.00, Fish	> 5,000.00, Daphnia magna	> 5,000.00, Algae
Cycloaliphatic amine - (Proprietary)	15.00, Fish	80.00, Daphnia	8.72, Pseudokirchneriella subcapitata
Salicylic acid - (69-72-7)	90.00, Leuciscus idus	105.00, Daphnia magna	No data available.
Amines - (Proprietary)	No data available.	No data available.	No data available.
Polyalkylenepolyamine - (Proprietary)	No data available.	No data available.	No data available.
1,3-propanediamine, n,n"-1,2-ethanediylbis- - (10563-26-5)	No data available.	No data available.	No data available.

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	UN2735	UN2735	UN2735
UN proper shipping name	Amines, liquid, corrosive, n.o.s. (Polyetherdiamine, Cycloaliphatic amine)	Amines, liquid, corrosive, n.o.s. (Polyetherdiamine, Cycloaliphatic amine)	Amines, liquid, corrosive, n.o.s. (Polyetherdiamine, Cycloaliphatic amine)

Transport hazard class(es)	Class: 8 Sub Class: Not Applicable	Class: 8 Sub Class: Not Applicable	Class: 8 Sub Class: Not Applicable
Packing group	II	II	II
Environmental hazards	IMDG Marine Pollutant: Yes;		
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
0010563-26-5	1,3-propanediamine, n,n''-1,2-ethanediylbis-	Yes		ACTIVE
0000616-47-7	1-methylimidazole	Yes		ACTIVE
0001761-71-3	4,4'-Diaminodicyclohexylmethane	Yes		ACTIVE
Proprietary	Amines	Yes		
0067762-90-7	Amorphous silica, hydrophobic	Yes	UVCB XU	ACTIVE
Proprietary	Cycloaliphatic amine	Yes	PRESENT	
Proprietary	Polyalkylenepolyamine	Yes		
Proprietary	polyalkylenepolyamino fatty acid amide	Yes	PRESENT	
Proprietary	Polyetherdiamine	Yes	PRESENT	
Proprietary	Primary amine	Yes	PRESENT	
0000069-72-7	Salicylic acid	Yes		ACTIVE

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:

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

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 10 July, 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.

H311 Toxic in contact with skin.

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H318 Causes serious eye damage.

H361 Suspected of damaging fertility or the unborn child.

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

H400 Very toxic to aquatic life.

H411 Toxic 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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