



QuakeBond™ 401HCAR High Chemical Resistance Epoxy Coating, Part A (Gray)

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 1: Chemical Product and Company Identification

1.1. Identification

Chemical Family : GRAY 100% Solids Epoxy High Impact 401HCAR RESIN
Product name : QuakeBond 401HCAR High Chemical Resistance Epoxy Coating

1.2. Recommended use and restrictions on use

Use of the substance/mixture : Resin: component

1.3. Supplier

Supplier's Name : QuakeWrap, Inc
6840 S Tucson Blvd
Tucson, Arizona 85712 - USA
T 520.791.7000 - F 520.791.0600
Office@quakewrap.com – www.quakewrap.com

1.4. Emergency telephone number

Emergency Number : Infotrac 800-535-5053

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Skin corrosion/irritation Category 2	H315	Causes skin irritation
Serious eye damage/eye irritation Category 2	H319	Causes serious eye irritation
Skin sensitization, Category 1	H317	May cause an allergic skin reaction

Full text of H statements : see section 16

2.2. GHS Label Elements, including precautionary statements

Hazard pictograms (GHS US) :



Signal word (GHS US) : Warning

Hazard statements (GHS US) : H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation

Precautionary statements (GHS US) : P261 - Avoid breathing mist/vapors/spray.
P264 - Wash all contact areas thoroughly after handling.
P272 - Contaminated work clothing must not be allowed out of the workplace.
P280 - Wear protective gloves/protective clothing/eye protection.
P302+P352 - If on skin: Wash with plenty of mild soap and water.
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P321 - Specific treatment: See SDS Section 4.
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P501 - Dispose of contents/container to special waste facility in accordance with regional/national regulations.

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition, Information on ingredients

3.1 Substances

Not applicable

3.2 Mixtures



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Name	Product Identifier	Conc (% w/w)	GHS-US classification
Epoxy Resin	(CAS-No.) TRADE SECRET	>= 60	Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Skin Sens. 1B, H317
Titanium dioxide	(CAS-No.) 13463-67-7	5 - 10	Not classified

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

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

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures after inhalation : If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention.
- First-aid measures after skin contact : Dispose of contaminated leather articles. Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Keep work clothing separate. Wash skin with plenty of water. Take off contaminated clothing. If skin irritation occurs: Get medical advice/attention.
- First-aid measures after eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention. Direct contact with the eyes is likely to be irritating.
- First-aid measures after ingestion : Do NOT induce vomiting. Immediately call a poison center or doctor/physician.

4.2. Most important symptoms and effects (acute and delayed)

- Symptoms/effects : Delayed adverse effects possible.
- Symptoms/effects after inhalation : Not expected to present a respiratory hazard under ambient conditions of normal industrial use due to low vapor pressure. Vapors from heated material may cause mild respiratory irritation with dryness and cough.
- Symptoms/effects after skin contact : Allergic skin rash. May cause moderate irritation. Swelling. Causes skin irritation. Redness, pain. Itching.
- Symptoms/effects after eye contact : Causes eye irritation. Swelling and conjunctivitis. Inflammation/damage of the eye tissue. redness, itching, tears.
- Symptoms/effects after ingestion : May cause gastrointestinal irritation, nausea, vomiting and diarrhea.
- Chronic symptoms : Symptoms of chronic overexposure may not be readily apparent. . Cross-sensitization, or allergic response away from direct contact area may occur.

Titanium dioxide (13463-67-7)	
Chronic symptoms	*Titanium Dioxide: The product contains Titanium Dioxide (TiO2 white) encapsulated in a solid matrix. No exposure to respirable titanium dioxide is anticipated during normal use of this item. In lifetime inhalation studies rats were exposed for 2 years to respectively 10, 50 and 250 mg/m3 of respirable TiO2. Slight lung fibrosis was observed at 50 and 250 mg/m3 levels. Microscopic lung tumors were also observed in 13 percent of the rats exposed to 250 mg/m3, an exposure level that caused lung overloading and impairment of rat lungs' clearance mechanisms. In further studies, these tumors were found to occur only under particle overload conditions in a uniquely sensitive species, the rat, and have little or no relevance for humans. The pulmonary inflammatory response to TiO2 particles exposure was also found to be much more severe in rats than in other rodent species. IARC has classified Titanium dioxide as Group 2B: "possibly carcinogenic to humans", based upon "inadequate evidence in humans and sufficient evidence in experimental animals" for the carcinogenicity of titanium dioxide. However, the conclusions of several epidemiology studies on more than 20000 TiO2 industry workers in Europe and the USA did NOT suggest a carcinogenic effect of TiO2 dust on the human lung. Mortality from other chronic diseases, including other respiratory diseases, was also not associated with exposure to TiO2 dust. Mutagenicity : Did not cause genetic damage in animals. Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire fighting measures

5.1 Suitable (and unsuitable) extinguishing media

- Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Specific hazards arising from the chemical

- Fire hazard : Irritating and/or toxic gases or fumes likely if involved in fire or exposed to extreme heat.
- Reactivity : The product is non-reactive under normal conditions of use, storage and transport.



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5.3. Special protective equipment and precautions for fire-fighters

- Firefighting instructions : Use water spray or fog for cooling exposed containers. Dike water and extinguishing agents away from drains and waterways if possible.
- Protection during firefighting : Complete protective clothing. Use self-contained breathing apparatus and chemically protective clothing.
- Other information : Hazardous decomposition products. On heating/burning: release of harmful/irritant gases/vapors.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

- Protective equipment : protective gloves. Safety glasses, Gloves.
- Emergency procedures : Avoid contact with skin and eyes.

6.1.2. For emergency responders

- Protective equipment : Boots, gloves, goggles. Synthetic apron.
- Emergency procedures : Stop leak if safe to do so. Prevent product from entering drains.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

- For containment : Soak up small spill with inert solids. Contain or absorb spilled liquid with clay or other absorbent material. Dike and contain spill. Sweep or shovel spills into appropriate container for disposal.
- Methods for cleaning up : On land, sweep or shovel into suitable containers. Clean/flush spill area with mild detergent solution.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Additional hazards when processed : When heated, material emits irritating fumes.
- Precautions for safe handling : Avoid contact with skin and eyes. Wear personal protective equipment.
- Hygiene measures : Always wash hands after handling the 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 : Do not expose to temperatures exceeding 50 °C/ 122 °F. Store in a dry place.
- Maximum storage period : 12 months
- Storage temperature : 15 - 50 °C

SECTION 8: Exposure Controls, Personal Protection

8.1. Control parameters

Titanium dioxide (13463-67-7)		
ACGIH	Local name	Titanium dioxide
ACGIH	ACGIH TWA (mg/m³)	10 mg/m³ Total Dust
ACGIH	Remark (ACGIH)	LRT irr; A3
OSHA	OSHA PEL (TWA) (mg/m³)	15 mg/m³ Total Dust
IDLH	US IDLH (mg/m³)	5000 mg/m³
NIOSH	NIOSH REL (TWA) (mg/m³)	0.3 mg/m³ Nanoparticles <100 nm, inhalable dust (proposed)

Epoxy Resin (TRADE SECRET)

Not applicable



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8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.
Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Gloves. Safety glasses. Protective goggles.

Materials for protective clothing:

butyl rubber. Chloroprene rubber. Nitrile rubber

Hand protection:

protective gloves

Eye protection:

Safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

Not expected to present a respiratory hazard under ambient conditions of normal industrial use due to low vapor pressure. Airborne concentrations greater than safe limits may be exceeded when material is sprayed, aerosolized, or heated. Use approved respiratory protection.

Personal protective equipment symbol(s):



Thermal hazard protection:

Use insulated gloves when handling this material hot.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Color	: Gray
Odor	: No data available
Odor threshold	: No data available
pH	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: > 100 °C
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Not applicable.
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Specific gravity / density	: 1.4 g/cm ³
Solubility	: insoluble in water.
Log Pow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available



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Viscosity, kinematic : 168571.429 mm²/s
 Viscosity, dynamic : 236000 cP
 Explosion limits : No data available
 Explosive properties : No data available
 Oxidizing properties : No data available

9.2 Other information

Minimum ignition energy : <

SECTION 10: Stability and Reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions of use and storage.

10.3. Possibility of hazardous reactions

Reaction with amines in large amounts or under uncontrolled conditions may produce extreme heat with noxious smoke and fumes.

10.4. Conditions to avoid

Overheating.

10.5. Incompatible materials

Oxidizing agent.

10.6. Hazardous decomposition products

Carbon dioxide. Carbon monoxide. Irritating and/or toxic gases or fumes may be generated by thermal decomposition or combustion. Residual monomer.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
 Acute toxicity (dermal) : Not classified
 Acute toxicity (inhalation) : Not classified

Titanium dioxide (13463-67-7)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 10000 mg/kg
LC50 inhalation rat (mg/l)	> 6.8 mg/l/4h

Skin corrosion/irritation : Causes skin irritation.
 Serious eye damage/irritation : Causes serious eye irritation.
 Respiratory or skin sensitization : May cause an allergic skin reaction.
 Germ cell mutagenicity : Not classified
 Carcinogenicity : Not classified

Titanium dioxide (13463-67-7)	
IARC group	2B - Possibly carcinogenic to humans

Reproductive toxicity : Not classified
 Specific target organ toxicity – single exposure : Not classified
 Specific target organ toxicity – repeated exposure : Not classified
 Aspiration hazard : Not classified
 Viscosity, kinematic : 168571.429 mm²/s
 Symptoms/effects : Delayed adverse effects possible.
 Symptoms/effects after inhalation : Not expected to present a respiratory hazard under ambient conditions of normal industrial use due to low vapor pressure. Vapors from heated material may cause mild respiratory irritation with dryness and cough.
 Symptoms/effects after skin contact : Allergic skin rash. May cause moderate irritation. Swelling. Causes skin irritation. Redness, pain. Itching.



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- Symptoms/effects after eye contact : Causes eye irritation. Swelling and conjunctivitis. Inflammation/damage of the eye tissue. redness, itching, tears.
- Symptoms/effects after ingestion : May cause gastrointestinal irritation, nausea, vomiting and diarrhea.
- Chronic symptoms : Symptoms of chronic overexposure may not be readily apparent. . Cross-sensitization, or allergic response away from direct contact area may occur.

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Chronic symptoms	*Titanium Dioxide: The product contains Titanium Dioxide (TiO ₂ white) encapsulated in a solid matrix. No exposure to respirable titanium dioxide is anticipated during normal use of this item. In lifetime inhalation studies rats were exposed for 2 years to respectively 10, 50 and 250 mg/m ³ of respirable TiO ₂ . Slight lung fibrosis was observed at 50 and 250 mg/m ³ levels. Microscopic lung tumors were also observed in 13 percent of the rats exposed to 250 mg/m ³ , an exposure level that caused lung overloading and impairment of rat lungs' clearance mechanisms. In further studies, these tumors were found to occur only under particle overload conditions in a uniquely sensitive species, the rat, and have little or no relevance for humans. The pulmonary inflammatory response to TiO ₂ particles exposure was also found to be much more severe in rats than in other rodent species. IARC has classified Titanium dioxide as Group 2B: "possibly carcinogenic to humans", based upon "inadequate evidence in humans and sufficient evidence in experimental animals" for the carcinogenicity of titanium dioxide. However, the conclusions of several epidemiology studies on more than 20000 TiO ₂ industry workers in Europe and the USA did NOT suggest a carcinogenic effect of TiO ₂ dust on the human lung. Mortality from other chronic diseases, including other respiratory diseases, was also not associated with exposure to TiO ₂ dust. Mutagenicity : Did not cause genetic damage in animals. Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

SECTION 12: Ecological information

12.1. Toxicity

- Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

Titanium dioxide (13463-67-7)	
LC50 fish 1	> 1000 mg/l Pimephales promelas (fathead minnow)
EC50 Daphnia 1	>= 1000 mg/l Daphnia magna (Water flea)
ErC50 (algae)	> 100 mg/l Pseudokirchneriella subcapitata (green algae)
Threshold limit algae 1	61 mg/l (EC50; Other; 72 h; Pseudokirchneriella subcapitata; Static system; Fresh water; Experimental value)

12.2. Persistence and degradability

Titanium dioxide (13463-67-7)	
Persistence and degradability	Biodegradability: not applicable. Low potential for mobility in soil.
ThOD	Not applicable
Epoxy Resin (TRADE SECRET)	
Persistence and degradability	Biodegradability in soil: no data available.

12.3. Bioaccumulative potential

GRAY 100% Solids Epoxy High Impact 412 RESIN 20365 (None - mix)	
Bioaccumulative potential	Low bioaccumulation potential.
Titanium dioxide (13463-67-7)	
Bioaccumulative potential	Not bioaccumulative.
Epoxy Resin (TRADE SECRET)	
Log Pow	3
Bioaccumulative potential	No bioaccumulation data available.

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available



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SECTION 13: Disposal considerations

13.1. Disposal methods

- Waste treatment methods : Landfilling of free liquid not recommended. Fuels burning or incineration preferred for material disposed of in "as sold" condition if regulations permit.
- Product/Packaging disposal recommendations : Dispose of contents or partial containers in accordance with local/regional regulations. Direct disposal of free liquid without treatment to landfill IS NOT recommended.
- Additional information : Landfilling of free liquid not recommended. Fuels burning or incineration preferred for material disposed of in "as sold" condition if regulations permit.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Not regulated

Transport by sea

Not applicable

Air transport

Not applicable

SECTION 15: Regulatory information

15.1. US Federal Regulations

Titanium dioxide (13463-67-7)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Epoxy Resin (TRADE SECRET)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
EPA TSCA Regulatory Flag	XU - XU - indicates a substance exempt from reporting under the Chemical Data Reporting Rule, (40 CFR 711).

15.2. International Regulations

CANADA

No additional information available

EU-Regulations

GRAY 100% Solids Epoxy High Impact 412 RESIN 20365 (None - mix)	
RoHS Substance	No
SVHC	No
Titanium dioxide (13463-67-7)	
SVHC	No
RoHS Substance	No
Epoxy Resin (TRADE SECRET)	
SVHC	No
RoHS Substance	No

National regulations

Titanium dioxide (13463-67-7)	
Listed on IARC (International Agency for Research on Cancer)	

15.3. US State regulations

- ⚠ WARNING:** This product can expose you to Butadiene, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.



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Component	Weight(%)	Carc.	Dev. Tox	Repro. Tox - Male	Repro. Tox - Female	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
Butadiene(106-99-0)	< 0.001%	X	X	X	X	0.4 µg/day	

SECTION 16: Other Information

National and international Regulations

Revision date : 11/11/2019
 Other information : **DISCLAIMER:** To the best of our knowledge, the information contained in this SDS is accurate or is obtained from sources believed to be accurate. However, no liability, expressed or implied, is assumed for the accuracy or completeness of the information contained herein. Buyer assumes liability in its use of the material.

Full text of H-phrases:

H315	Causes skin irritation
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation

Abbreviations and acronyms:

	N.A. - Not Applicable N.E. - Not Established N.D. - Not Determined ACGIH = American Conference of Governmental Industrial Hygienists OSHA = US Occupational Health and Safety Administration TLV-TWA = Threshold Limit Value-Time Weighted Average (8 hrs) STEL = Short-Term Exposure Limit (15 min) C = Ceiling Value PEL = Permissible Exposure Limit OEL = Occupational Exposure Limit IDLH = Immediately Dangerous to Life and Health ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor PNEC = Predicted No Effect Concentration LOAEL = Lowest Observed Adverse Effect Level NOAEL = No Observed Adverse Effect Level NOAEC = No Observed Adverse Effect Concentration
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NFPA health hazard : 1 - Materials that, under emergency conditions, can cause significant irritation.

NFPA fire hazard : 1 - Materials that must be preheated before ignition can occur.

NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.

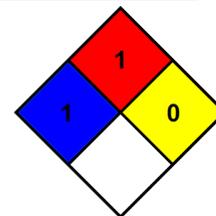
Hazard Rating

Health : 2 Moderate Hazard - Temporary or minor injury may occur

Flammability : 1 Slight Hazard - Materials that must be preheated before ignition will occur. Includes liquids, solids and semi solids having a flash point above 200 F. (Class III B)

Physical : 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

Personal protection : C
 C - Safety glasses, Gloves, Synthetic apron



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