

SAFETY DATA SHEET

1. Identification

Identification

Product name: CORZAN® 3216 GRY 245 PEL

Additional identification

Chemical name: Mixture

Recommended use and restriction on use

Recommended use: Not determined.

Restrictions on use: Not determined.

Details of the supplier of the safety data sheet

Supplier

Company Name:

Address:

Telephone:

Emergency telephone number:

Not Available

2. Hazard(s) identification

Hazard classification

Health hazards

Skin sensitizer	Category 1
Germ cell mutagenicity	Category 2
Carcinogenicity	Category 2
Toxic to reproduction	Category 1B
Specific target organ toxicity - single exposure	Category 1
Specific target organ toxicity - repeated exposure	Category 1

Unknown toxicity

Acute toxicity, oral	00.0 %
Acute toxicity, dermal	00.1 %
Acute toxicity, inhalation, vapor	99.9 %
Acute toxicity, inhalation, dust or mist	12.9 %

Label elements:

Hazard symbol:



Signal word

Danger

Hazard statement: May cause an allergic skin reaction.
Suspected of causing genetic defects.
Suspected of causing cancer.
May damage fertility or the unborn child.
Causes damage to organs.
Causes damage to organs through prolonged or repeated exposure.

Precautionary statement:

Prevention: Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Do not breathe dust or mists. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment.

Response: IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. If exposed: Call a poison center/doctor Specific treatment (see this label). Wash contaminated clothing before reuse. Collect spillage.

Storage: Store locked up.

Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in GHS classification: None identified.

3. Composition/information on ingredients

Chemical name	CAS number	Percent by Weight
Titanium dioxide	13463-67-7	1 - 5%
Dialkyltin bis-thioglycolate	10584-98-2	1 - 5%
Hydrocarbon & Paraffin waxes	Confidential	1 - 5%
Tin alkyl thioacetate	26864-37-9	0.1 - 0.5%

Trade secret information: A specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

General information: IF exposed: Call a POISON CENTER or doctor/physician.

Ingestion: Rinse mouth. Get medical attention if symptoms occur.

Inhalation: Remove exposed person to fresh air if adverse effects are observed.

Skin contact: Take off contaminated clothing and wash before re-use. Wash skin thoroughly with soap and water. If skin irritation or rash occurs: Get medical attention. Launder contaminated clothing before reuse. If burned by contact with hot material, cool molten material adhering to skin as quickly as possible with water, and see a physician for removal of adhering material and treatment of burn.

Eye contact: Flush thoroughly with water. If irritation occurs, get medical assistance. Remove contact lenses, if present and easy to do. Continue rinsing. If hot melted material should splash into the eyes, flush eyes immediately with water for 15 minutes while holding the eyelids open. Immediately call a poison center or doctor. Treat as any foreign particulate matter.

Most important symptoms/effects, acute and delayed

Symptoms: Symptoms may be delayed.

Indication of immediate medical attention and special treatment needed

Treatment: Treat symptomatically.

5. Fire-fighting measures

General fire hazards: No unusual fire or explosion hazards noted.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Use water spray, dry chemical or foam for extinction. CO2 may be ineffective on large fires.

Unsuitable extinguishing media: Not determined.

Specific hazards arising from the chemical: See section 10 for additional information. Run-off water from fire fighting may have corrosive effects.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: Thermoplastic polymers can burn. Protect product from flames; maintain proper clearance when using heat devices, etc. Irritating or toxic substances will be emitted upon burning, combustion or decomposition. Large masses of molten polymer held at elevated temperatures for extended periods of time may auto-ignite.

Special protective equipment for fire-fighters: Wear full protective firegear including self-containing breathing apparatus operated in the positive pressure mode with full facepiece, coat, pants, gloves and boots.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep unauthorized personnel away.

Methods and material for containment and cleaning up: Pick up free solid for recycle and/or disposal.

Environmental precautions: Avoid release to the environment. Prevent further leakage or spillage if safe to do so.

7. Handling and storage

Precautions for safe handling: Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Launder contaminated clothing before reuse. Avoid environmental contamination.
Contact with heated material may cause thermal burns.
Conduct any operations emitting fumes or vapors (including thermoforming, heat joining, cutting and or sealing of articles and clean up) under well-ventilated conditions. Avoid breathing process vapors. Do not hold product for extended periods of time at elevated temperatures or allow thick masses of hot polymer to accumulate because they can decompose emitting hazardous gasses.

Recommended purging compounds are general purpose acrylic or acrylonitrile-butadiene-styrene (ABS) copolymer. Do not use flame-retarded or halogen-containing grades! Fume condensates may include hazardous contaminants from additives. Condensate may be combustible and should be periodically removed from exhaust hoods, ductwork, and other surfaces. Impervious gloves should be worn during cleanup operations to prevent skin contact.

Post thermal processing activities necessary to produce molded articles (such as cutting, sanding, sawing, grinding, drilling, or regrinding) may create dust or "fines." Powders, dust, and/or fines may pose a dust explosion hazard. Static ignition hazard can result from handling and use. Electrically bond and ground all containers and equipment before transfer or use of material. Avoid breathing dust.

Preparation may charge electrostatically; always use grounding leads when transferring from one container to another. Operators should wear antistatic footwear and clothing. Floors should be of the conducting type.

Do not taste, swallow, or chew products. Wash thoroughly after processing. Do not store or consume food in processing areas. Avoid conditions which create dust. Practice good housekeeping.

Maximum Handling Temperature:

Not determined.

Conditions for safe storage, including any incompatibilities:

Store away from incompatible materials. See section 10 for incompatible materials. Avoid excessive heat. Store in a well-ventilated place. Do not store near flammable agents. Store in dry, well ventilated place away from sources of heat and direct sunlight.

Maximum Storage Temperature:

Not determined.

8. Exposure controls/personal protection

Control parameters:

Occupational exposure limits

Chemical name	Type	Exposure Limit values	Source
Titanium dioxide - Total dust.	PEL	15 mg/m ³	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Titanium dioxide - Total dust.	TWA	10 mg/m ³	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
Titanium dioxide	TWA	10 mg/m ³	US. ACGIH Threshold Limit Values (02 2012)
Titanium dioxide - Respirable fraction.	TWA	1 mg/m ³	US. ACGIH Notice of Intended Changes (NIC) to Threshold Limit Values (02 2013)
Dialkyltin bis-thioglycolate - as Sn	STEL	0.2 mg/m ³	US. ACGIH Threshold Limit Values (02 2012)
Dialkyltin bis-thioglycolate - as Sn	TWA	0.1 mg/m ³	US. ACGIH Threshold Limit Values (02 2012)
Dialkyltin bis-thioglycolate - as Sn	REL	0.1 mg/m ³	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
Dialkyltin bis-thioglycolate - as Sn	PEL	0.1 mg/m ³	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Hydrocarbon & Paraffin waxes - Fume.	TWA	2 mg/m ³	US. ACGIH Threshold Limit Values (02 2012)
Hydrocarbon & Paraffin waxes - Fume.	REL	2 mg/m ³	US. NIOSH: Pocket Guide to Chemical Hazards (2010)

Appropriate engineering controls:

Mechanical ventilation or local exhaust ventilation may be required. Provide adequate ventilation.

Individual protection measures, such as personal protective equipment

General information:

Use personal protective equipment as required.

Eye/face protection:

If contact is likely, safety glasses with side shields are recommended.

Skin protection

Hand protection:

Suitable gloves can be recommended by the glove supplier. Use good industrial hygiene practices to avoid skin contact. If contact with the material may occur wear chemically protective gloves.

Other:

Gloves, coveralls, apron, boots as necessary to minimize contact. Do not wear rings, watches or similar apparel that could entrap the material. Long sleeve shirt is recommended.

Respiratory protection:

A respiratory protection program compliant with all applicable regulations must be followed whenever workplace conditions require the use of a respirator. Use respirator with a dust/mist cartridge if the recommended exposure limit is exceeded.

Hygiene measures:

Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Observe good industrial hygiene practices. Avoid contact with skin. Wash hands before breaks and immediately after handling the product. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance

Physical state:

Solid

Form:

Pellets

Color:

Gray

Odor:

Faint

Odor threshold:	No data available.
pH:	No data available.
Melting Point:	No data available.
Boiling Point:	No data available.
Flash Point:	Not applicable
Evaporation rate:	No data available.
Flammability (solid, gas):	No data available.
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	No data available.
Flammability limit - lower (%):	No data available.
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	No data available.
Vapor density:	No data available.
Relative density:	1.5 - 1.6 68 °F (20 °C)
Solubility(ies)	
Solubility in water:	Insoluble in water
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.

10. Stability and reactivity

Reactivity:	No data available.
Chemical stability:	Material is stable under normal conditions.
Possibility of hazardous reactions:	Will not occur.
Conditions to avoid:	Excessive heat.
Incompatible materials:	Avoid contact with acetal, acetal copolymers, and amine containing materials. If processed together, these materials may be mutually destructive and degrade rapidly. Prevent cross contamination of feed stocks.
Hazardous decomposition products:	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors. Chlorinated compounds. Hydrogen chloride.

11. Toxicological information

Information on likely routes of exposure

Inhalation:	No data available.
Ingestion:	No data available.
Skin contact:	Causes mild skin irritation.
Eye contact:	No data available.

Information on toxicological effects

Acute Toxicity

Oral

Product: ATEmix > 10.000 mg/kg.

Dermal

Product: ATEmix > 5000 mg/kg

Inhalation

Product: ATEmix (, 4 h): > 20 mg/l. Dusts, mists and fumes
At processing or combustion temperatures this product may emit fumes and vapors that cause irritation, possibly severe, to the respiratory tract, eyes, or skin. Avoid the inhalation of dust, mists, or vapors.

Skin corrosion/irritation:

Product: Causes mild skin irritation.
Remarks: Material may aggravate an existing dermatitis. Prolonged or repeated skin contact as from clothing wet with material may cause dermatitis. Symptoms may include redness, edema, drying, and cracking of the skin.

Serious eye damage/eye irritation:

Product: Remarks: Not expected to cause eye irritation.
Remarks: Overexposure to thermal decomposition products produced by high processing temperatures may be irritating to the eye.

Respiratory sensitization:

No data available

Skin sensitization:

Dialkyltin bis-thioglycolate Classification: May cause sensitization by skin contact. (Literature)

Hydrocarbon & Paraffin waxes Classification: Not a skin sensitizer. (Literature) Not a skin sensitizer.

Specific target organ toxicity - single exposure:

Product: Breathing of mist or aerosol may aggravate asthma and inflammatory or fibrotic pulmonary disease.

Hydrocarbon & Paraffin waxes If material is misted or if vapors are generated from heating, exposure may cause irritation of mucous membranes and the upper respiratory tract.

Aspiration hazard:

No data available

Other effects:

Titanium dioxide Lung

Chronic Effects

Carcinogenicity:

Titanium dioxide

Titanium dioxide has been classified by IARC as possibly carcinogenic to humans (Group 2B) through inhalation. This classification is based on inadequate evidence for carcinogenicity in humans, but sufficient evidence of carcinogenicity in animals (rats). It should be noted that recent studies have demonstrated that the rat may be particularly sensitive to high levels of low toxicity dusts such as titanium dioxide.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

Titanium dioxide

Overall evaluation: 2B. Possibly carcinogenic to humans.

US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

No carcinogenic components identified

Germ cell mutagenicity:

Dialkyltin bis-thioglycolate

Results of vitro mutagenicity tests have been positive.

Dialkyltin bis-thioglycolate

Results of in vivo mutagenicity tests have been positive.

Reproductive toxicity:

Dialkyltin bis-thioglycolate

May damage fertility or the unborn child.

Specific target organ toxicity - repeated exposure:

Dialkyltin bis-thioglycolate

In studies with experimental animals repeated exposure to organotin compounds have impacted the thymus.
Oral: Target Organ(s): Thymus

12. Ecological information

Ecotoxicity

Fish

Titanium dioxide LC 50 (Fathead Minnow, 4 d): > 1,000 mg/l

Dialkyltin bis-thioglycolate LC 50 (Zebra Fish, 96 h): > 11.4 mg/l

Hydrocarbon & Paraffin waxes LC 50 (Fathead Minnow, 4 d): > 100 mg/l
NOEC (Fathead Minnow, 4 d): > 100 mg/l

Aquatic invertebrates

Dialkyltin bis-thioglycolate EC 50 (Water flea (Daphnia magna), 48 h): > 1.4 mg/l

Hydrocarbon & Paraffin waxes EC 50 (Water flea (Daphnia magna), 2 d): > 10,000 mg/l
NOEC (Water flea (Daphnia magna), 2 d): 10,000 mg/l
EC 50 (Water flea (Daphnia magna), 21 d): > 10 mg/l
NOEC (Water flea (Daphnia magna), 21 d): 10 mg/l

Toxicity to Aquatic Plants

Dialkyltin bis-thioglycolate EC 50 (Green algae (Scenedesmus quadricauda), 72 h): 0.56 mg/l

Hydrocarbon & Paraffin waxes EC 50 (Alga, 3 d): > 100 mg/l
NOEC (Alga, 3 d): > 100 mg/l

Toxicity to soil dwelling organisms

No data available

Sediment Toxicity

No data available

Toxicity to Terrestrial Plants

No data available

Toxicity to Above-Ground Organisms

No data available

Toxicity to microorganisms

Dialkyltin bis-thioglycolate

EC 50 (Sludge): > 1,000 mg/l

Hydrocarbon & Paraffin waxes

EC 50 (Sludge, 1.6 d): > 1,000 mg/l
NOEC (Sludge, 1.6 d): > 1,000 mg/l

Persistence and degradability

Biodegradation

Dialkyltin bis-thioglycolate

OECD TG 301 F, 35.3 %, 28 Days, Not readily degradable.

Hydrocarbon & Paraffin waxes

OECD TG 301 F, 31 %, 28 d, Not readily degradable.
OECD TG 301 A, 55 %, 31 d, Not readily degradable.
OECD TG 301 A, 98.5 %, 137 d

Bioaccumulative potential

Bioconcentration factor (BCF)

No data available

Partition coefficient n-octanol / water (log Kow)

Dialkyltin bis-thioglycolate

Log Kow: 3.4 (Measured)

Mobility:

No data available

Other adverse effects:

No data available.

13. Disposal considerations

Disposal instructions:

Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations. Dispose of packaging or containers in accordance with local, regional, national and international regulations. Empty container contains product residue which may exhibit hazards of product.

Contaminated packaging:

Container packaging may exhibit hazards.

14. Transport information

DOT

Not regulated.

IMDG

Not regulated.

IATA

Not regulated.

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

None known.

Shipping descriptions may vary based on mode of transport, quantities, temperature of the material, package size, and/or origin and destination. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material. Review classification requirements before shipping materials at elevated temperatures.

15. Regulatory information

US federal regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

None present or none present in regulated quantities.

Superfund amendments and reauthorization act of 1986 (SARA)

Hazard categories

Acute (Immediate)	Chronic (Delayed)
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SARA 302 Extremely hazardous substance

Chemical name	RQ	Threshold Planning Quantity
Chloroform	None10lbs.	None10000 lbs.

SARA 304 Emergency release notification

Chemical name	RQ	Calculated
Chloroform	10 lbs.	RQ calculation in lbs: > 50,000.00. RQ calculation in kg: > 22,679.60.
Tetrachloromethane	10 lbs.	RQ calculation in lbs: > 50,000.00. RQ calculation in kg: > 22,679.60.
Styrene	1000 lbs.	RQ calculation in lbs: > 50,000.00. RQ calculation in kg: > 22,679.60.
1,3-Butadiene	10 lbs.	RQ calculation in lbs: > 50,000.00. RQ calculation in kg: > 22,679.60.
Methyl methacrylate	1000 lbs.	RQ calculation in lbs: > 50,000.00. RQ calculation in kg: > 22,679.60.

SARA 311/312 Hazardous chemical

Chemical name
Chloroform
Titanium dioxide
Dialkyltin bis-thioglycolate
Hydrocarbon & Paraffin waxes
Tin alkyl thioacetate

SARA 313 (TRI reporting)

None present or none present in regulated quantities.

US state regulations

US. California Proposition 65

This product may contain chemical(s) known to the state of California to cause cancer and/or birth defects. For additional information please contact Lubrizol Customer Assistance: America(s): AmerLZAMCustomerAssistance@Lubrizol.com ; Europe: EMEAICustomerAssistance@Lubrizol.com ; Asia: APCustomerAssistance@Lubrizol.com

Inventory Status

Australia (AICS)

All components are in compliance with chemical notification requirements in Australia.

Canada (DSL/NDL)

All components are in compliance with the Canadian Environmental Protection Act and are present on the Domestic Substances List.

China (IECSC)

All components of this product are listed on the Inventory of Existing Chemical Substances in China.

European Union (REACH)

To obtain information on the REACH compliance status of this product, please visit Lubrizol.com/REACH, or e-mail us at REACH_MSDS_INQUIRIES@Lubrizol.com

Japan (ENCS)

This product requires notification in Japan.

Korea (ECL)

All components are in compliance in Korea.

New Zealand (NZIoC)

All components are in compliance with chemical notification requirements in New Zealand.

Philippines (PICCS)

All components are in compliance with the Philippines Toxic Substances and Hazardous and Nuclear Wastes Control Act of 1990 (R.A. 6969).

Switzerland (SWISS)

All components are in compliance with the Environmentally Hazardous Substances Ordinance in Switzerland.

Taiwan (TCSCA)

All components of this product are listed on the Taiwan inventory.

United States (TSCA)

All components of this material are on the US TSCA Inventory.

The information that was used to confirm the compliance status of this product may deviate from the chemical information shown in Section 3.

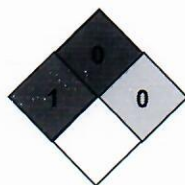
16. Other information, including date of preparation or last revision

HMIS Hazard ID

Health	*	2
Flammability		0
Physical hazards		0

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; *Chronic health effect

NFPA Hazard ID



Flammability
Health
Reactivity
Special hazard.

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe

Issue date: 06/30/2014
Version #: 1.0
Source of information: No data available.
Further information: No data available.

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