

100% Epoxy Color Pack Sterling ICP Building Solutions Group

Version No: 3.3.2.1

Safety Data Sheet according to OSHA HazCom Standard (2012) requirements

Issue Date: **04/20/2021** Print Date: **04/20/2021** S.GHS.USA.EN

SECTION 1 Identification

Product Identifier

Product name	100% Epoxy Color Pack Sterling	
Synonyms	Not Available	
Proper shipping name	Environmentally hazardous substance, liquid, n.o.s. (contains bisphenol A diglycidyl ether polymer)	
Other means of identification	Not Available	

Recommended use of the chemical and restrictions on use

Relevant identified uses	Colo

Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Registered company name	ICP Building Solutions Group	
Address	565 W Watkins Street Phoenix AZ 85043 United States	
Telephone	623-435-2277	
Fax	Not Available	
Website	www.icpgroup.com	
Email	sds@icpgroup.com	

Emergency phone number

Association / Organisation	ChemTel
Emergency telephone numbers	1-800-255-3924
Other emergency telephone numbers	1-813-248-0585

SECTION 2 Hazard(s) identification

Classification of the substance or mixture



Note: The hazard category numbers found in GHS classification in section 2 of this SDSs are NOT to be used to fill in the NFPA 704 diamond. Blue = Health Red = Fire Yellow = Reactivity White = Special (Oxidizer or water reactive substances)

Classification

Eye Irritation Category 2A, Chronic Aquatic Hazard Category 2, Skin Corrosion/Irritation Category 2, Skin Sensitizer Category 1, Carcinogenicity Category 2

Label elements

Hazard pictogram(s)







Signal word

Warning

Hazard statement(s)

H319	Causes serious eye irritation.
H411	Toxic to aquatic life with long lasting effects.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.

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H351

Suspected of causing cancer.

Hazard(s) not otherwise classified

Not Applicable

Precautionary statement(s) General

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.

Precautionary statement(s) Prevention

• , ,	
P202	Do not handle until all safety precautions have been read and understtood.
P261	Avoid breathing dust/fumes/gas/mist/vapors/spray
P264	Wash thoroughly after handling
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.

Precautionary statement(s) Response

P302+P352	IF ON SKIN: Wash with plenty of water.
P332+P313	IF Skin irritation occurs: Get medical advice/attention.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P337+P313	IF eye irritation persists: Get medical advice/attention.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P362	Take off contaminated clothing and wash before reuse.
P391	Collect spillage

Precautionary statement(s) Storage

Precautionary statement(s) Disposal

Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.

SECTION 3 Composition / information on ingredients

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
25085-99-8	25-30	bisphenol A diglycidyl ether polymer
68609-97-2	5-10	(C12-14)alkylglycidyl ether
13463-67-7	40-50	titanium dioxide
21645-51-2	1-5	aluminium hydroxide
1333-86-4	.5-1.5	carbon black

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

SECTION 4 First-aid measures

Description of first aid measures		
Eye Contact	If this product comes in contact with the eyes: Wash out immediately with fresh running water. Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. Seek medical attention without delay; if pain persists or recurs seek medical attention. Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.	
Skin Contact	If skin contact occurs: Immediately remove all contaminated clothing, including footwear. Flush skin and hair with running water (and soap if available). Seek medical attention in event of irritation.	
Inhalation	If fumes, aerosols or combustion products are inhaled remove from contaminated area. Other measures are usually unnecessary.	
Ingestion	IF SWALLOWED, REFER FOR MEDICAL ATTENTION, WHERE POSSIBLE, WITHOUT DELAY. For advice, contact a Poisons Information Centre or a doctor. Urgent hospital treatment is likely to be needed.	

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- In the mean time, qualified first-aid personnel should treat the patient following observation and employing supportive measures as indicated by the patient's condition.
- If the services of a medical officer or medical doctor are readily available, the patient should be placed in his/her care and a copy of the SDS should be provided. Further action will be the responsibility of the medical specialist.
- If medical attention is not available on the worksite or surroundings send the patient to a hospital together with a copy of the SDS.

Where medical attention is not immediately available or where the patient is more than 15 minutes from a hospital or unless instructed otherwise:

• INDUCE vomiting with fingers down the back of the throat, ONLY IF CONSCIOUS. Lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.

NOTE: Wear a protective glove when inducing vomiting by mechanical means.

Most important symptoms and effects, both acute and delayed

See Section 11

Indication of any immediate medical attention and special treatment needed

As in all cases of suspected poisoning, follow the ABCDEs of emergency medicine (airway, breathing, circulation, disability, exposure), then the ABCDEs of toxicology (antidotes, basics, change absorption, change distribution, change elimination).

For poisons (where specific treatment regime is absent):

BASIC TREATMENT

- Establish a patent airway with suction where necessary.
- Watch for signs of respiratory insufficiency and assist ventilation as necessary.
- Administer oxygen by non-rebreather mask at 10 to 15 L/min.
- ▶ Monitor and treat, where necessary, for pulmonary oedema.
- Monitor and treat, where necessary, for shock.
- Anticipate seizures.
- DO NOT use emetics. Where ingestion is suspected rinse mouth and give up to 200 ml water (5 ml/kg recommended) for dilution where patient is able to swallow, has a strong gag reflex and does not drool.

ADVANCED TREATMENT

- ▶ Consider orotracheal or nasotracheal intubation for airway control in unconscious patient or where respiratory arrest has occurred.
- Positive-pressure ventilation using a bag-valve mask might be of use.
- Monitor and treat, where necessary, for arrhythmias.
- Start an IV D5W TKO. If signs of hypovolaemia are present use lactated Ringers solution. Fluid overload might create complications.
- Drug therapy should be considered for pulmonary oedema
- ▶ Hypotension with signs of hypovolaemia requires the cautious administration of fluids. Fluid overload might create complications
- ► Treat seizures with diazepam.
- ▶ Proparacaine hydrochloride should be used to assist eye irrigation.

BRONSTEIN, A.C. and CURRANCE, P.L

EMERGENCY CARE FOR HAZARDOUS MATERIALS EXPOSURE: 2nd Ed. 1994

Treat symptomatically.

SECTION 5 Fire-fighting measures

Extinguishing media

- ► Foam
- Dry chemical powder.

Special hazards arising from the substrate or mixture

Fire Incompatibility

▶ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result

Special protective equipment and precautions for fire-fighters

Fire Fighting

- Alert Fire Brigade and tell them location and nature of hazard.
- Wear full body protective clothing with breathing apparatus.
- ▶ SI
- Slight fire hazard when exposed to heat or flame. Combustion products include:

Fire/Explosion Hazard

carbon dioxide (CO2) aldehydes

Combustible.

aidenydes

metal oxides

other pyrolysis products typical of burning organic material

SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills

·In the event of a spill of a reactive diluent, the focus is on containing the spill to prevent contamination of soil and surface or ground

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water.

-If irritating vapors are present, an approved air-purifying respirator with organic vapor canister is recommended for cleaning up spills and leaks.

Environmental hazard - contain spillage.

- Clean up all spills immediately.

- Avoid breathing vapours and contact with skin and eyes.

Environmental hazard - contain spillage.

Industrial spills or releases of reactive diluents are infrequent and generally contained. If a large spill does occur, the material should be captured, collected, and reprocessed or disposed of according to applicable governmental requirements.

Moderate hazard.

- Clear area of personnel and move upwind.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 Handling and storage

Precautions for safe handling Safe handling Avoid all personal contact, including inhalation. Wear protective clothing when risk of exposure occurs. DO NOT allow clothing wet with material to stay in contact with skin Other information Store in original containers.

Conditions for safe storage, including any incompatibilities	
Suitable container	 Metal can or drum Packaging as recommended by manufacturer. Check all containers are clearly labelled and free from leaks.
	Titanium dioxide reacts with strong acids, strong oxidisers reacts violently with aluminium, calcium, hydrazine, lithium (at around 200 deg C.), magnesium, potassium, sodium, zinc, especially at

b dust or powders can ignite and then explode in a carbon dioxide atmosphere

Keep containers securely sealed.

WARNING: Avoid or control reaction with peroxides. All transition metal peroxides should be considered as potentially explosive.

elevated temperatures - these reactions involves reduction of the oxide and are accompanied by incandescence

Epoxides:

- are highly reactive with acids, bases, and oxidising and reducing agents.
- react, possibly violently, with anhydrous metal chlorides, ammonia, amines and group 1 metals.

Storage incompatibility

- Glycidyl ethers:

 may form unstable peroxides on storage in air ,light, sunlight, UV light or other ionising radiation, trace metals inhibitor should be maintained at adequate levels
- ▶ may polymerise in contact with heat, organic and inorganic free radical producing initiators
- may polymerise with evolution of heat in contact with oxidisers, strong acids, bases and amines
- react violently with strong oxidisers, permanganates, peroxides, acyl halides, alkalis, ammonium persulfate, bromine dioxide
- * attack some forms of plastics, coatings, and rubber

Reactive diluents are stable under recommended storage conditions, but can decompose at elevated temperatures. In some cases, decomposition can cause pressure build-up in closed systems.

- ▶ Avoid cross contamination between the two liquid parts of product (kit).
- If two part products are mixed or allowed to mix in proportions other than manufacturer's recommendation, polymerisation with gelation and evolution of heat (exotherm) may occur.
- Avoid reaction with amines, mercaptans, strong acids and oxidising agents

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

INGILIDENT DATA						
Source	Ingredient	Material name	TWA	STEL	Peak	Notes
US OSHA Permissible Exposure Limits (PELs) Table Z-1	titanium dioxide (rutile)	Titanium dioxide - Total dust	15 mg/m3	Not Available	Not Available	Not Available
US NIOSH Recommended Exposure Limits (RELs)	titanium dioxide (rutile)	Titanium dioxide	Not Available	Not Available	Not Available	Ca; See Appendix A
US ACGIH Threshold Limit Values (TLV)	titanium dioxide (rutile)	Titanium dioxide	10 mg/m3	Not Available	Not Available	(A4)
US OSHA Permissible Exposure Limits (PELs) Table Z-3	aluminium hydroxide	Inert or Nuisance Dust: Total Dust	15 mg/m3 / 50 mppcf	Not Available	Not Available	Not Available
US OSHA Permissible Exposure Limits (PELs) Table Z-3	aluminium hydroxide	Inert or Nuisance Dust: Respirable fraction	5 mg/m3 / 15 mppcf	Not Available	Not Available	Not Available
US OSHA Permissible Exposure Limits (PELs) Table Z-1	aluminium hydroxide	Particulates Not Otherwise Regulated (PNOR)- Total dust	15 mg/m3	Not Available	Not Available	Not Available

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Source	Ingredient	Material name	TWA	STEL	Peak	Notes
US OSHA Permissible Exposure Limits (PELs) Table Z-1	aluminium hydroxide	Particulates Not Otherwise Regulated (PNOR)- Respirable fraction	5 mg/m3	Not Available	Not Available	Not Available
US NIOSH Recommended Exposure Limits (RELs)	aluminium hydroxide	Particulates not otherwise regulated	Not Available	Not Available	Not Available	See Appendix D
US ACGIH Threshold Limit Values (TLV)	aluminium hydroxide	Aluminum metal and insoluble compounds (Respirable particulate matter)	1 mg/m3	Not Available	Not Available	A4
US OSHA Permissible Exposure Limits (PELs) Table Z-1	carbon black	Carbon black	3.5 mg/m3	Not Available	Not Available	Not Available
US NIOSH Recommended Exposure Limits (RELs)	carbon black	Carbon black	3.5 mg/m3	Not Available	Not Available	Ca; TWA 0.1 mg PAHs/m3 [Carbon black in presence of polycyclic aromatic hydrocarbons (PAHs)] See Appendix A See Appendix C
US ACGIH Threshold Limit Values (TLV)	carbon black	Carbon black (Inhalable particulate matter)	3 mg/m3	Not Available	Not Available	A3

Emergency Limits

Ingredient	TEEL-1	TEEL-2	TEEL-3
titanium dioxide (rutile)	30 mg/m3	330 mg/m3	2,000 mg/m3
aluminium hydroxide	8.7 mg/m3	73 mg/m3	440 mg/m3
carbon black	9 mg/m3	99 mg/m3	590 mg/m3

Ingredient	Original IDLH	Revised IDLH
bisphenol A diglycidyl ether polymer	Not Available	Not Available
(C12-14)alkylglycidyl ether	Not Available	Not Available
titanium dioxide (rutile)	5,000 mg/m3	Not Available
aluminium hydroxide	Not Available	Not Available
carbon black	1,750 mg/m3	Not Available

Occupational Exposure Banding

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
bisphenol A diglycidyl ether polymer	E	≤ 0.1 ppm
(C12-14)alkylglycidyl ether	E	≤ 0.1 ppm
Notes:	Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.	

Exposure controls

Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can Appropriate engineering controls be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. Personal protection

Eye and face protection

- Safety glasses with side shields.
- Chemical goggles.

Skin protection

See Hand protection below

NOTE:

F The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact.

Hands/feet protection

The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

When handling liquid-grade epoxy resins wear chemically protective gloves , boots and aprons. The performance, based on breakthrough times ,of:

- ·Ethyl Vinyl Alcohol (EVAL laminate) is generally excellent
- ·Butyl Rubber ranges from excellent to good
- ·Nitrile Butyl Rubber (NBR) from excellent to fair.

Body protection

See Other protection below

Other protection

 Overalls. P.V.C apron.

Respiratory protection

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- ▶ Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content.
- The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.
- Cartridge performance is affected by humidity. Cartridges should be changed after 2 hr of continuous use unless it is determined that the humidity is less than 75%, in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily, regardless of the length of time used

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

Appearance

Epoxy resins are thermosetting polymers, which are crosslinked using hardeners (curing agents).

Epoxy is either any of the basic components or the cured end products of epoxy resins, as well as a colloquial name for the epoxide functional group. Epoxy resins, also known as polyepoxides, are a class of reactive prepolymers and polymers which contain at least two epoxide groups. Epoxy resins are thermosetting polymers, which are crosslinked using hardeners (curing agents).

Epoxy is either any of the basic components or the cured end products of epoxy resins, as well as a colloquial name for the epoxide functional group. Epoxy resins, also known as polyepoxides, are a class of reactive prepolymers and polymers which contain at least two epoxide groups.

Physical state	Liquid	Relative density (Water= 1)	Not Available
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	Not Available	Decomposition temperature	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	Not Available	Molecular weight (g/mol)	Not Available
Flash point (°C)	99	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Applicable	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	Not Available	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water	Immiscible	pH as a solution (1%)	Not Available
Vapour density (Air = 1)	Not Available	VOC g/L	Not Available

SECTION 10 Stability and reactivity

Reactivity	See section 7
Chemical stability	 Unstable in the presence of incompatible materials. Product is considered stable.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 Toxicological information

Information on toxicological effects

Inhaled	The material is not thought to produce either adverse health effects or irritation of the respiratory tract following inhalation (as classified by EC Directives using animal models). Nevertheless, adverse systemic effects have been produced following exposure of animals by at least one other route and good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting. In animal testing, exposure to aerosols of reactive diluents (especially o-cresol glycidyl ether, CAS RN:2210-79-9) has been reported to affect the adrenal gland, central nervous system, kidney, liver, ovaries, spleen, testes, thymus and respiratory tract. Inhalation hazard is increased at higher temperatures.
Ingestion	Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual. Reactive diluents exhibit a range of ingestion hazards. Small amounts swallowed incidental to normal handling operations are not likely to cause injury. Animal testing showed that a single dose of bisphenol A diglycidyl ether (BADGE) given by mouth, caused an increase in immature sperm.
Skin Contact	The material may accentuate any pre-existing dermatitis condition Bisphenol A diglycidyl ether (BADGE) may produce contact dermatitis characterized by redness and swelling, with weeping followed by crusting and scaling. A liquid resin with a molecular weight of 350 produced severe skin irritation when applied daily for 4 hours over 20 days.

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Skin contact with reactive diluents may cause slight to moderate irritation with local redness. Repeated or prolonged skin contact may cause burns.

Open cuts, abraded or irritated skin should not be exposed to this material

Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.

Skin contact with the material may be harmful; systemic effects may result following absorption.

There is some evidence to suggest that the material may cause mild but significant inflammation of the skin either following direct contact or after a delay of some time. Repeated exposure can cause contact dermatitis which is characterised by redness, swelling and blistering.

Eye

Eye contact with reactive diluents may cause slight to severe irritation with the possibility of chemical burns or moderate to severe damage to the cornea

There is some evidence that material may produce eye irritation in some persons and produce eye damage 24 hours or more after instillation. Moderate inflammation may be expected with redness; conjunctivitis may occur with prolonged exposure.

Chronic

There has been concern that this material can cause cancer or mutations, but there is not enough data to make an assessment. Repeated or long-term occupational exposure is likely to produce cumulative health effects involving organs or biochemical systems. Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population. Glycidyl ethers can cause genetic damage and cancer.

Bisphenol A diglycidyl ethers (BADGEs) produce a sensitization dermatitis (skin inflammation) characterized by eczema with blisters and papules, with considerable itching of the back of the hand. This may persist for 10-14 days after withdrawal from exposure and recur immediately on re-exposure.

For some reactive diluents, prolonged or repeated skin contact may result in absorption of potentially harmful amounts or allergic skin reactions. Exposure to some reactive diluents (notably, neopentylglycol diglycidyl ether, CAS RN: 17557-23-2) has caused cancer in some animal testing. Long term exposure to titanium and several of its compounds produces lung scarring and chronic bronchitis. Breathing is impaired and cardiac changes with right heart enlargements occur.

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TOXICITY	IRRITATION
Not Available	Not Available

bisphenol A diglycidyl ether polymer

TOXICITY	IRRITATION
Dermal (rabbit) LD50: 6000 mg/kg ^[2]	Not Available
Oral(Rat) LD50; >2400 mg/kg ^[2]	

(C12-14)alkylglycidyl ether

TOXICITY	IRRITATION
Oral(Rat) LD50; 21.818 mg/kg ^[2]	Eye (rabbit): mild [Ciba]
	Eye: adverse effect observed (irritating) ^[1]
	Skin (guinea pig): sensitiser
	Skin (human): Irritant
	Skin (human): non- sensitiser
	Skin (rabbit): moderate
	Skin : Moderate
	Skin: adverse effect observed (irritating) ^[1]

titanium dioxide (rutile)

TOXICITY	IRRITATION
Oral(Rat) LD50; >2000 mg/kg ^[1]	Eye: no adverse effect observed (not irritating) ^[1]
	Skin: no adverse effect observed (not irritating) ^[1]

aluminium hydroxide

TOXICITY	IRRITATION
Inhalation(Rat) LC50; >2.3 mg/l4h ^[1]	Eye: no adverse effect observed (not irritating) ^[1]
Oral(Rat) LD50; >2000 mg/kg ^[1]	Skin: no adverse effect observed (not irritating) ^[1]

carbon black

TOXICITY	IRRITATION
dermal (rat) LD50: >2000 mg/kg ^[1]	Eye: no adverse effect observed (not irritating) ^[1]
Oral(Rat) LD50; >8000 mg/kg ^[1]	Skin: no adverse effect observed (not irritating) ^[1]

Legend:

 Value obtained from Europe ECHA Registered Substances - Acute toxicity 2.* Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances

BISPHENOL A DIGLYCIDYL ETHER POLYMER

Bisphenol A diglycidyl ethers (BADGEs) produce a sensitization dermatitis (skin inflammation) characterized by eczema with blisters and papules, with considerable itching of the back of the hand. This may persist for 10-14 days after withdrawal from exposure and recur immediately on re-exposure.

The chemical structure of hydroxylated diphenylalkanes or bisphenols consists of two phenolic rings joined together through a bridging carbon. This class of endocrine disruptors that mimic oestrogens is widely used in industry, particularly in plastics.

Bisphenol A (BPA) and some related compounds exhibit oestrogenic activity in human breast cancer cell line MCF-7, but there were remarkable differences in activity.

Bisphenol A may have effects similar to female sex hormones and when administered to pregnant women, may damage the foetus. It may also damage male reproductive organs and sperm.

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	The substance is classified by IARC as Group 3: NOT classifiable as to its carcinogenicity to humans.	NOT classifiable as to its carcinogenicity to humans. Evidence of carcinogenicity may be inadequate or limited in animal testing.				
TITANIUM DIOXIDE (RUTILE)	conjunctivitis.	he material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of esicles, scaling and thickening of the skin.				
CARBON BLACK	Inhalation (rat) TCLo: 50 mg/m3/6h/90D-I Nil reported WARNING: This substance has been classified by the		ogenic to Humans.			
100% Epoxy Color Pack Sterling & BISPHENOL A DIGLYCIDYL ETHER POLYMER & (C12-14)ALKYLGLYCIDYL ETHER	Contact allergies quickly manifest themselves as conteczema involves a cell-mediated (T lymphocytes) imm Oxiranes (including glycidyl ethers and alkyl oxides, a	The following information refers to contact allergens as a group and may not be specific to this product. Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Diviranes (including glycidyl ethers and alkyl oxides, and epoxides) share many common characteristics with respect to animal toxicology. One such oxirane is ethyloxirane; data presented here may be taken as representative.				
100% Epoxy Color Pack Sterling & TITANIUM DIOXIDE (RUTILE)	Exposure to titanium dioxide is via inhalation, swallowing or skin contact. When inhaled, it may deposit in lung tissue and lymph nodes causing dysfunction of the lungs and immune system. Absorption by the stomach and intestines depends on the size of the particle.					
100% Epoxy Color Pack Sterling & BISPHENOL A DIGLYCIDYL ETHER POLYMER	Animal testing over 13 weeks showed bisphenol A diglycidyl ether (BADGE) caused mild to moderate, chronic, inflammation of the skin. Reproductive and Developmental Toxicity: Animal testing showed BADGE given over several months caused reduction in body weight but had no reproductive effects.					
BISPHENOL A DIGLYCIDYL ETHER POLYMER & (C12-14)ALKYLGLYCIDYL ETHER	For 1,2-butylene oxide (ethyloxirane): In animal testing, ethyloxirane increased the incidence of tumours of the airways in animals exposed via inhalation. However, tumours were not observed in mice chronically exposed via skin.					
TITANIUM DIOXIDE (RUTILE) & ALUMINIUM HYDROXIDE & CARBON BLACK	No significant acute toxicological data identified in literature search.					
Acute Toxicity	×	Carcinogenicity	✓			
Skin Irritation/Corrosion	✓	Reproductivity	×			
Serious Eye Damage/Irritation	✓	STOT - Single Exposure	×			
Respiratory or Skin sensitisation	•	STOT - Repeated Exposure	×			
Mutagenicity	×	Aspiration Hazard	×			

Legend:

X − Data either not available or does not fill the criteria for classification
 ✓ − Data available to make classification

>100mg/l

SECTION 12 Ecological information

NOEC(ECx)

48

city										
100% Epoxy Color Pack	Endpoint		Test Duration (hr)	Spec	ies	Value)	s	Source	
Sterling	Not Available		Not Available	Not A	Not Available Not Available		vailable	Not Available		able
bisphenol A diglycidyl ether	Endpoint		Test Duration (hr)	Spec	ies	Value)	S	Source	
polymer	Not Available		Not Available	Not A	vailable	Not A	vailable	N	Not Avail	able
	Endpoint		Test Duration (hr)		Species		Value		Sc	ource
(C12-14)alkylglycidyl ether	EC50	48			Crustacea	Crustacea 6.07m		.07mg/l		
	EC50(ECx)	48		Crustacea			6.07mg/l		2	
	LC50	96			Fish >5000		>5000mg	ı/l	2	
	Endpoint	Те	st Duration (hr)	Species				Value		Source
	EC50	48		Crustacea				>100mg/l		2
titanium dioxide (rutile)	LC50	96		Fish	Fish		>100mg/l		2	
	EC50	72		Algae or other aquatic plants			13mg/l		2	
	NOEC(ECx)	48		Crustacea				<=1mg/l		2
	Endpoint	Tes	st Duration (hr)	Species				Value		Source
alominiom bodancida	EC50	48	·	Crustacea				>0.065mg/l		4
aluminium hydroxide	LC50	96		Fish				0.57mg/l		2

Crustacea

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	EC50	96		Algae or other aquatic plants		0.46mg/l	2
	Endpoint	Test Duration (hr)	Sp	ecies	Value		Source
	EC50	48	Cri	ustacea	33.076	6-41.968mg/l	4
carbon black	LC50	96	Fis	h	>100m	ng/l	2
	EC50	72	Alç	ae or other aquatic plants	>0.2m	g/l	2
	NOEC(ECx)	24	Cri	ıstacea	3200m	ng/l	1
		'					
Legend:	Extracted from 1.	IUCLID Toxicity Data 2. Europ	e ECHA	Registered Substances - Ecotoxico	ological Informa	tion - Aquatic Toxic	ity 3. EPIWIN Su

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters.

Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data

V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment

Liquid epoxy resins and some reactive diluents are not readily biodegradable, although its epoxy functional groups are hydrolysed in contact with water, they have the potential to bio-accumulate and are moderately toxic to aquatic organisms. They are generally classified as dangerous for the environment according to the European Union classification criteria. Reactive diluents generally have a low to moderate potential for bioconcentration (tendency to accumulate in the food chain) and a high to very high potential for mobility in soil. Small amounts that escape to the atmosphere will photodegrade.

Environmental toxicity is a function of the n-octanol/water partition coefficient (log Pow, log Kow). Compounds with log Pow >5 act as neutral organics, but at a lower log Pow, the toxicity of epoxide-containing polymers is greater than that predicted for simple narcotics.

Significant environmental findings are limited. Oxiranes (including glycidyl ethers and alkyl oxides, and epoxides) exhibit common characteristics with respect to environmental fate and ecotoxicology.

For 1,2-Butylene oxide (Ethyloxirane):

log Kow values of 0.68 and 0.86. BAF and BCF: 1 to 17 L./kg.

Reactive diluents which are only slightly soluble in water and do not evaporate quickly are expected to sink to the bottom or float to the top, depending on the density, where they would be expected to biodegrade slowly.

DO NOT discharge into sewer or waterways

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
bisphenol A diglycidyl ether polymer	HIGH	HIGH
titanium dioxide (rutile)	HIGH	HIGH

Bioaccumulative potential

Ingredient	Bioaccumulation	
bisphenol A diglycidyl ether polymer	LOW (LogKOW = 2.6835)	
titanium dioxide (rutile)	LOW (BCF = 10)	

Mobility in soil

Ingredient	Mobility
bisphenol A diglycidyl ether polymer	LOW (KOC = 51.43)
titanium dioxide (rutile)	LOW (KOC = 23.74)

SECTION 13 Disposal considerations

Waste treatment methods

Product / Packaging disposal

- Containers may still present a chemical hazard/ danger when empty.
- Return to supplier for reuse/ recycling if possible.

Waste Management

Production waste from epoxy resins and resin systems should be treated as hazardous waste in accordance with National regulations. Fire retarded resins containing halogenated compounds should also be treated as special waste.

Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area.

- ▶ DO NOT allow wash water from cleaning or process equipment to enter drains.
- It may be necessary to collect all wash water for treatment before disposal.
- ▶ Recycle wherever possible or consult manufacturer for recycling options.
- Consult State Land Waste Authority for disposal.

SECTION 14 Transport information

Labels Required



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Marine Pollutant



Land transport (DOT)

• • •						
UN number)82					
UN proper shipping name	ronmentally hazardous substance, liquid, n.o.s. (contains bisphenol A diglycidyl ether polymer)					
Transport hazard class(es)	Class 9 Subrisk Not Applicable					
Packing group						
Environmental hazard	Not Applicable					
Special precautions for user	Hazard Label 9 Special provisions 8, 146, 173, 335, IB3, T4, TP1, TP29					

For Individual Packages of Environmentally Hazardous Substances meeting the descriptions of UN 3077 or UN 3082 that contain LESS THAN the reportable quantity (5000 lbs) - Not Regulated

For Individual Packages of Environmentally Hazardous Substances meeting the descriptions of UN 3077 or UN 3082 that contain MORE THAN the reportable quantity (5000 lbs) - Regulated and classified as below:

Air transport (ICAO-IATA / DGR)

UN number	3082	0082			
UN proper shipping name	Environmentally hazardo	nvironmentally hazardous substance, liquid, n.o.s. * (contains bisphenol A diglycidyl ether polymer)			
Transport hazard class(es)	ICAO/IATA Class ICAO / IATA Subrisk	9 Not Applicable			
	ERG Code	9L			
Packing group	III				
Environmental hazard	Environmentally hazardo	ous			
	Special provisions		A97 A158 A197 A215		
	Cargo Only Packing In	nstructions	964		
	Cargo Only Maximum	Qty / Pack	450 L		
Special precautions for user	Passenger and Cargo	Packing Instructions	964		
	Passenger and Cargo Maximum Qty / Pack		450 L		
	Passenger and Cargo	Limited Quantity Packing Instructions	Y964		
	Passenger and Cargo	Limited Maximum Qty / Pack	30 kg G		

Sea transport (IMDG-Code / GGVSee)

· ·						
UN number	3082					
UN proper shipping name	ENVIRONMENTALL	VIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains bisphenol A diglycidyl ether polymer)				
Transport hazard class(es)		9 Not Applicable				
Packing group	Ш					
Environmental hazard	Marine Pollutant					
Special precautions for user	EMS Number Special provisions Limited Quantities					

Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group
bisphenol A diglycidyl ether polymer	Not Available
(C12-14)alkylglycidyl ether	Not Available
titanium dioxide (rutile)	Not Available
aluminium hydroxide	Not Available
carbon black	Not Available

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Transport in bulk in accordance with the ICG Code

Product name	Ship Type
bisphenol A diglycidyl ether polymer	Not Available
(C12-14)alkylglycidyl ether	Not Available
titanium dioxide (rutile)	Not Available
aluminium hydroxide	Not Available
carbon black	Not Available

SECTION 15 Regulatory information

Safety, health and environmental regulations / legislation specific for the substance or mixture

bisphenol A diglycidyl ether polymer is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

(C12-14)alkylglycidyl ether is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

titanium dioxide (rutile) is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 2B: Possibly carcinogenic to humans

International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)

US - California Proposition 65 - Carcinogens

US - California Safe Drinking Water and Toxic Enforcement Act of 1986 - Proposition 65 List

US ACGIH Threshold Limit Values (TLV)

US ACGIH Threshold Limit Values (TLV) - Carcinogens

aluminium hydroxide is found on the following regulatory lists

US ACGIH Threshold Limit Values (TLV)

US ACGIH Threshold Limit Values (TLV) - Carcinogens

US AIHA Workplace Environmental Exposure Levels (WEELs)

US DOE Temporary Emergency Exposure Limits (TEELs)

US NIOSH Recommended Exposure Limits (RELs)

carbon black is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 2B: Possibly carcinogenic to humans

International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)

US - California Proposition 65 - Carcinogens

US - California Safe Drinking Water and Toxic Enforcement Act of 1986 - Proposition 65 List

US ACGIH Threshold Limit Values (TLV)

US TSCA Chemical Substance Inventory - Interim List of Active Substances

US TSCA Chemical Substance Inventory - Interim List of Active Substances

US TSCA Section 4/12 (b) - Sunset Dates/Status

US ACGIH Threshold Limit Values (TLV) - Notice of Intended Changes

US AIHA Workplace Environmental Exposure Levels (WEELs)

US DOE Temporary Emergency Exposure Limits (TEELs)

US List of Active Substances Exempt from the TSCA Inventory Notifications (Active-Inactive) Rule

US NIOSH Recommended Exposure Limits (RELs)

US OSHA Permissible Exposure Limits (PELs) Table Z-1

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

US TSCA Chemical Substance Inventory - Interim List of Active Substances

US OSHA Permissible Exposure Limits (PELs) Table Z-1

US OSHA Permissible Exposure Limits (PELs) Table Z-3

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

US TSCA Chemical Substance Inventory - Interim List of Active Substances

US ACGIH Threshold Limit Values (TLV) - Carcinogens

US AIHA Workplace Environmental Exposure Levels (WEELs)

US DOE Temporary Emergency Exposure Limits (TEELs)

US NIOSH Recommended Exposure Limits (RELs)

US OSHA Permissible Exposure Limits (PELs) Table Z-1

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory US TSCA Chemical Substance Inventory - Interim List of Active Substances

Federal Regulations

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Section 311/312 hazard categories

Section 311/312 hazard categories	
Flammable (Gases, Aerosols, Liquids, or Solids)	No
Gas under pressure	No
Explosive	No
Self-heating	No
Pyrophoric (Liquid or Solid)	No
Pyrophoric Gas	No
Corrosive to metal	No
Oxidizer (Liquid, Solid or Gas)	No
Organic Peroxide	No
Self-reactive	No
In contact with water emits flammable gas	No
Combustible Dust	No
Carcinogenicity	Yes

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Acute toxicity (any route of exposure)	No
Reproductive toxicity	
Skin Corrosion or Irritation	
Respiratory or Skin Sensitization	
Serious eye damage or eye irritation	
Specific target organ toxicity (single or repeated exposure)	
Aspiration Hazard	
Germ cell mutagenicity	
Simple Asphyxiant	
Hazards Not Otherwise Classified	

US. EPA CERCLA Hazardous Substances and Reportable Quantities (40 CFR 302.4)

None Reported

State Regulations

US. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm

US - California Proposition 65 - Carcinogens: Listed substance

titanium dioxide (rutile), carbon black Listed

National Inventory Status

National Inventory	Status	
Australia - AIIC / Australia Non-Industrial Use	Yes	
Canada - DSL	Yes	
Canada - NDSL	No (bisphenol A diglycidyl ether polymer; (C12-14)alkylglycidyl ether; titanium dioxide (rutile); aluminium hydroxide; carbon black)	
China - IECSC	Yes	
Europe - EINEC / ELINCS / NLP	No (bisphenol A diglycidyl ether polymer)	
Japan - ENCS	No (bisphenol A diglycidyl ether polymer; (C12-14)alkylglycidyl ether)	
Korea - KECI	Yes	
New Zealand - NZIoC	Yes	
Philippines - PICCS	Yes	
USA - TSCA	Yes	
Taiwan - TCSI	Yes	
Mexico - INSQ	No ((C12-14)alkylglycidyl ether)	
Vietnam - NCI	Yes	
Russia - FBEPH	Yes	
Legend:	Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)	

SECTION 16 Other information

Revision Date	04/20/2021
Initial Date	08/09/2020

CONTACT POINT

PLEASE NOTE THAT TITANIUM DIOXIDE IS NOT PRESENT IN CLEAR OR NEUTRAL BASES

SDS Version Summary

Version	Date of Update	Sections Updated
2.3.2.1	04/20/2021	Acute Health (eye), Acute Health (inhaled), Acute Health (swallowed), Appearance, Chronic Health, Classification, Engineering Control, Environmental, Exposure Standard, Fire Fighter (fire/explosion hazard), First Aid (eye), Ingredients, Spills (minor), Storage (storage incompatibility), Storage (storage requirement), Transport, Transport Information

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings.

Definitions and abbreviations

PC—TWA: Permissible Concentration-Time Weighted Average PC—STEL: Permissible Concentration-Short Term Exposure Limit IARC: International Agency for Research on Cancer

ACGIH: American Conference of Governmental Industrial Hygienists

STEL: Short Term Exposure Limit

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TEEL: Temporary Emergency Exposure Limit $_{\circ}$

IDLH: Immediately Dangerous to Life or Health Concentrations

ES: Exposure Standard OSF: Odour Safety Factor

NOAEL :No Observed Adverse Effect Level LOAEL: Lowest Observed Adverse Effect Level

TLV: Threshold Limit Value LOD: Limit Of Detection OTV: Odour Threshold Value BCF: BioConcentration Factors

BEI: Biological Exposure Index
AIIC: Australian Inventory of Industrial Chemicals

DSL: Domestic Substances List

NDSL: Non-Domestic Substances List

IECSC: Inventory of Existing Chemical Substance in China EINECS: European INventory of Existing Commercial chemical Substances ELINCS: European List of Notified Chemical Substances

NLP: No-Longer Polymers

ENCS: Existing and New Chemical Substances Inventory KECI: Korea Existing Chemicals Inventory

NZIoC: New Zealand Inventory of Chemicals
PICCS: Philippine Inventory of Chemicals and Chemical Substances

TSCA: Toxic Substances Control Act TCSI: Taiwan Chemical Substance Inventory INSQ: Inventario Nacional de Sustancias Químicas

NCI: National Chemical Inventory FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

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