ICP

Epoxy 400 Black Part A

ICP Construction Inc.

Version No: 1.1

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

Issue Date: 10/23/2023 Print Date: 10/23/2023 S.GHS.USA.EN

SECTION 1 Identification

Product Identifier

Product name	Epoxy 400 Black Part A	
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 Specialty flooring resin

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

Registered company name	ICP Construction Inc.
Address	150 Dascomb Road Andover, MA 01810 United States
Telephone	1-866-667-5119 1-978-623-9987
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

Classification of the substance or mixture		
The hazard category numbers found in GHS classification in section 2 SDSs are NOT to be used to fill in the NFPA 704 diamond. Blue = Red = Fire Yellow = Reactivity White = Special (Oxidizer or water re substances)		
Skin Corrosion/Irritation Category 2, Sensitisation (Skin) Category 1, Serious Eye Damage/Eye Irritation Category 2A, Germ Cell Mutagenicity Category 2, Carcinogenicity Category 2, Reproductive Toxicity Category 2, Hazardous to the Aquatic Environment Long-Term Hazard Category 2		
Warning		
Causes skin irritation.		
May cause an allergic skin reaction.		

H319	Causes serious eye irritation.
H341	Suspected of causing genetic defects.
H351	Suspected of causing cancer.
H361	Suspected of damaging fertility or the unborn child.
H411	Toxic to aquatic life with long lasting effects.

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.	
P103	Read label before use.	

Precautionary statement(s) Prevention

P201	Obtain special instructions before use.
P280	Wear protective gloves, protective clothing, eye protection and face protection.
P261	Avoid breathing mist/vapours/spray.
P273	Avoid release to the environment.
P202	Do not handle until all safety precautions have been read and understood.
P264	Wash all exposed external body areas thoroughly after handling.
P272	Contaminated work clothing must not be allowed out of the workplace.

Precautionary statement(s) Response

P308+P313	IF exposed or concerned: 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.	
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.	
P337+P313	If eye irritation persists: Get medical advice/attention.	
P391	Collect spillage.	
P302+P352	IF ON SKIN: Wash with plenty of water and soap.	
P332+P313	If skin irritation occurs: Get medical advice/attention.	
P362+P364	Take off contaminated clothing and wash it before reuse.	

Precautionary statement(s) Storage

P405 Store locked up.

Precautionary statement(s) Disposal

P501 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
1333-86-4	1-5	carbon black
25085-99-8	60-80	bisphenol A diglycidyl ether polymer
2210-79-9	1-5	o-cresyl glycidyl ether
100-51-6	3-7	benzyl alcohol
84852-15-3	1-5	4-nonylphenol. branched

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. 	

Continued...

Epoxy 400 Black Part A

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 or combustion products are inhaled remove from contaminated area. Lay patient down. Keep warm and rested. Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures. Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. Transport to hospital, or doctor.
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. 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.
Fire/Explosion Hazard	 Combustible. Slight fire hazard when exposed to heat or flame. Combustion products include: carbon dioxide (CO2) aldehydes

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	 Environmental hazard - contain spillage. 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 water. If irritating vapors are present, an approved air-purifying respirator with organic vapor canister is recommended for cleaning up spills and leaks. Clean up all spills immediately. Avoid breathing vapours and contact with skin and eyes.
Major Spills	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.

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. Keep containers securely sealed.

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.
Storage incompatibility	 Benzyl alcohol: may froth in contact with water slowly oxidises in air, oxygen forming benzaldehyde is incompatible with mineral acids, caustics, aliphatic amines, isocyanates reacts violently with strong oxidisers, and explosively with sulfuric acid at elevated temperatures is incompatible with aluminum, iron, steel attacks some nonfluorinated plastics; may attack, extract and dissolve polypropylene Benzyl alcohol contaminated with 1.4% hydrogen bromide and 1.2% of dissolved iron(II) polymerises exothermically above 100 deg. C. In general, uncured epoxy resins have only poor mechanical, chemical and heat resistance properties. However, good properties are obtained to reacting the linear epoxy resin with suitable curatives to form three-dimensional cross-linked thermoset structures. Epoxides: react, possibly violently, with anhydrous metal chlorides, ammonia, amines and group 1 metals. 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

SECTION 8 Exposure controls / personal protection

Control parameters

INGREDIENT DATA

Occupational Exposure Limits (OEL)

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
US OSHA Permissible Exposure	carbon	Carbon black	3.5 mg/m3	Not	Not	Not Available

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
imits (PELs) Table Z-1	black			Available	Available	
JS OSHA Permissible Exposure .imits (PELs) Table Z-3	carbon black	Inert or Nuisance Dust: Total Dust	15 mg/m3 / 50 mppcf	Not Available	Not Available	Not Available
JS OSHA Permissible Exposure .imits (PELs) Table Z-3	carbon black	Inert or Nuisance Dust: Respirable fraction	5 mg/m3 / 15 mppcf	Not Available	Not Available	Not Available
JS 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
Emergency Limits						
ngredient	TEEL-1		TEEL-2			TEEL-3
arbon black	9 mg/m3		99 mg/m	3		590 mg/m3
enzyl alcohol	30 ppm		52 ppm			740 ppm
-nonylphenol, branched	3.9 mg/m3		43 mg/m	3		260 mg/m3
ngredient	Original IDL	н			Revised IDLH	I
arbon black	1,750 mg/m3				Not Available	
isphenol A diglycidyl ether	Not Available				Not Available	
o-cresyl glycidyl ether	Not Available				Not Available	
	Not Available				Not Available	
benzyl alcohol 4-nonylphenol, branched	Not Available				Not Available	
	NUL AVAIIADIE				NUL AVAIIADIE	
Occupational Exposure Banding						
ngredient	Occupationa	I Exposure Band Rating			Occupation	al Exposure Band Limit
visphenol A diglycidyl ether volymer	E				≤ 0.1 ppm	
o-cresyl glycidyl ether	E			≤ 0.1 ppm		
enzyl alcohol	E				≤ 0.1 ppm	
-nonylphenol, branched	E				≤ 0.1 ppm	
Notes:	adverse heal		exposure. The ou	utput of this pro	ocess is an occu	es or bands based on a chemical's potency and the pational exposure band (OEB), which corresponds to
xposure controls						
Appropriate engineering controls						and the hazard. Well-designed engineering controls c ctions to provide this high level of protection.
Individual protection measures, such as personal protective equipment	MP2					
Eye and face protection	 Safety glasses with side shields. Chemical goggles. 					
Skin protection	See Hand pro	ptection below				
Hands/feet protection	 NOTE: 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. 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. 					
	Nitrile Butyl	Rubber (NBR) from excellent use solvent to clean the skin	to fair.			
Body protection	 Nitrile Butyl DO NOT 		to fair.			

Respiratory protection

Type A-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

P.V.C apron.

- + 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. Reactive diluents are generally colourless to yellow/ amber, low viscosity liquids with mild ether-like odour; solubility in water varies across the family. Substitution on the phenolic rings may generate solids. Bisphenol A epoxy resin. Important epoxy resins are produced from combining epichlorohydrin and bisphenol A to give bisphenol A diglycidyl ethers. Increasing the ratio of bisphenol A to epichlorohydrin during manufacture produces higher molecular weight linear polyethers with glycidyl end groups, which are semi-solid to hard crystalline materials at room temperature depending on the molecular weight achieved. As the molecular weight of the resin increases, the epoxide content reduces and the material behaves more and more like a thermoplastic.
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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 (°C)	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	<100 when mixed as intended

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 respiratory irritation (as classified by EC Directives using animal models). Nevertheless inhalation of vapours, fumes or aerosols, especially for prolonged periods, may produce respiratory discomfort and occasionally, distress. 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. Inhalation of benzyl alcohol may affect breathing (causing depression and paralysis of breathing and lower blood pressure. Inhalation of aerosols (mists, fumes), generated by the material during the course of normal handling, may be harmful.
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.

	Swallowing large doses of benzyl alcohol may cause abdominal pain, nausea, vomiting and diarrhea. It may affect behaviour and/or the cen nervous system, and cause headache, sleepiness, excitement, dizziness, inco-ordination, coma, convulsions and other symptoms of centra nervous system depression.		
Skin Contact	Skin contact with the material may be harmful; systemic effects may result following absorption. This material can cause inflammation of the skin on contact in some persons. 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. 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.		
Eye	This material can cause eye irritation and damage in some persons. 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.		
Chronic	Repeated or long-term occupational exposure is likely to produ Skin contact with the material is more likely to cause a sensitis Ample evidence from experiments exists that there is a suspic Glycidyl ethers can cause genetic damage and cancer. Bisphenol A diglycidyl ethers (BADGEs) produce a sensitization papules, with considerable itching of the back of the hand. This on re-exposure. For some reactive diluents, prolonged or repeated skin contact Exposure to some reactive diluents (notably, neopentylglycol of	ion dermatitis (skin inflammation) characterized by eczema with blisters and his may persist for 10-14 days after withdrawal from exposure and recur immediately ct may result in absorption of potentially harmful amounts or allergic skin reactions. diglycidyl ether, CAS RN: 17557-23-2) has caused cancer in some animal testing. e allergic contact dermatitis (skin inflammation). Prolonged or repeated swallowing	
Epoxy 400 Black Part A	TOXICITY Not Available	IRRITATION Not Available	
carbon black	TOXICITY Dermal (rabbit) LD50: >2000 mg/kg ^[1]	IRRITATION Eye: no adverse effect observed (not irritating) ^[1]	

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

bisphenol A diglycidyl ether polymer	ΤΟΧΙΟΙΤΥ	IRRITATION
	Dermal (rabbit) LD50: 6000 mg/kg ^[2]	Not Available
	Oral (Rat) LD50: >2400 mg/kg ^[2]	

o-cresyl glycidyl ether	ΤΟΧΙΟΙΤΥ	IRRITATION		
	dermal (rat) LD50: >2000 mg/kg ^[1]	Eye (rabbit): non-irritating *		
	Inhalation(Rat) LC50: >6.1 ppm4h ^[1]	Eye: no adverse effect observed (not irritating) ^[1]		
	Oral (Rat) LD50: >2000 mg/kg ^[2]	Skin (rabbit): irritating *		
		Skin: no adverse effect observed (not irritating) ^[1]		
	TOXICITY	IRRITATION		
	Dermal (rabbit) LD50: 2000 mg/kg ^[2]	Eye (rabbit): 0.75 mg open SEVERE		
benzyl alcohol	Inhalation(Rat) LC50: >4.178 mg/L4h ^[1]	Eye: adverse effect observed (irritating) ^[1]		
benzyr aiconor	Oral (Rat) LD50: 1230 mg/kg ^[2]	Skin (man): 16 mg/48h-mild		
		Skin (rabbit):10 mg/24h open-mild		
		Skin: no adverse effect observed (not irritating) ^[1]		

4-nonylphenol, branched	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: >2000 mg/kg ^[2]	Eye (rabbit): 100 mg - SEVERE
	Oral (Rat) LD50: 1000-2500 mg/kg ^[2]	Eye: adverse effect observed (irritating) ^[1]
		Skin (rabbit): 500 mg/24h-SEVERE
		Skin: adverse effect observed (corrosive) ^[1]

Legend:

1. 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

	✓	Aspiration Hazard	×		
Respiratory or Skin sensitisation	×	STOT - Repeated Exposure	×		
Serious Eye Damage/Irritation		STOT - Single Exposure	×		
Skin Irritation/Corrosion	× ×	Reproductivity			
Acute Toxicity	×	Carcinogenicity	 ✓ ✓ 		
Acute Terrisit	×	Consistent and in the			
BISPHENOL A DIGLYCIDYL ETHER POLYMER & O-CRESYL GLYCIDYL ETHER	For 1,2-butylene oxide (ethyloxirane): In animal testing, ethyloxirane increased the incidence observed in mice chronically exposed via skin.	e of tumours of the airways in animals	exposed via inhalation. However, tumours were not		
Epoxy 400 Black Part A & BISPHENOL A DIGLYCIDYL ETHER POLYMER & O-CRESYL GLYCIDYL ETHER	Oxiranes (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.				
Epoxy 400 Black Part A & 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.				
Epoxy 400 Black Part A & BENZYL ALCOHOL	Adverse reactions to fragrances in perfumes and fragranced cosmetic products include allergic contact dermatitis, irritant contact dermatitis, sensitivity to light, immediate contact reactions, and pigmented contact dermatitis. Airborne and connubial contact dermatitis occurs. Fragrance allergens act as haptens, low molecular weight chemicals that cause an immune response only when attached to a carrier protein. However, not all sensitizing fragrance chemicals are directly reactive, but require previous activation.				
Epoxy 400 Black Part A & BISPHENOL A DIGLYCIDYL ETHER POLYMER & O-CRESYL GLYCIDYL ETHER & BENZYL ALCOHOL	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.				
Epoxy 400 Black Part A & O-CRESYL GLYCIDYL ETHER	Laboratory (in vitro) and animal studies show, exposure to the material may result in a possible risk of irreversible effects, with the possibility of producing mutation.				
4-NONYLPHENOL, BRANCHED	For nonylphenol and its compounds: Alkylphenols like nonylphenol and bisphenol A have estrogenic effects in the body. They are known as xenoestrogens. These substances are intravenous anaesthetic agents. They have a very low level of acute toxicity; they may cause skin irritation. For nonylphenol: Animal testing suggests that repeated exposure to nonylphenol may cause liver changes and kidney dysfunction. Nonylphenol was not found to cause mutations or chromosomal aberrations. The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis. The material may cause severe skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin. Repeated exposure may produce severe ulceration. Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Gastrointestinal changes, liver changes, effects on newborn recorded.				
BENZYL ALCOHOL	Unlike benzylic alcohols, the beta-hydroxyl group of the members of benzyl alkyl alcohols contributes to break down reactions but do not undergo phase II metabolic activation. Though structurally similar to cancer causing ethyl benzene, phenethyl alcohol is only of negligible concern due to limited similarity in their pattern of activity. For benzoates: Benzyl alcohol, benzoic acid and its sodium and potassium salt have a common metabolic and excretion pathway. All but benzyl alcohol are considered to be unharmful and of low acute toxicity. The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin. This is a member or analogue of a group of benzyl derivatives generally regarded as safe (GRAS), based partly on their self-limiting properties as flavouring substances in food. In humans and other animals, they are rapidly absorbed, broken down and excreted, with a wide safety margin. The aryl alkyl alcohol (AAA) fragrance ingredients have diverse chemical structures, with similar metabolic and toxicity profiles. The AAA fragrances demonstrate low acute and subchronic toxicity by skin contact and swallowing.				
O-CRESYL GLYCIDYL ETHER	o-CGE is a direct-acting mutagen in in-vitro test syste no mutagenic activity. Causes sensitisation * * Huntsr		cleus tests and assays in transgenic animals, showed		
BISPHENOL A DIGLYCIDYL ETHER POLYMER	 * [Reichold]; ** [Epoxylite Corp.]; for monomer 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. Glycidyl ethers can cause genetic damage and cancer. The substance is classified by IARC as Group 3: NOT classifiable as to its carcinogenicity to humans. Evidence of carcinogenicity may be inadequate or limited in animal testing. 				
CARBON BLACK	· · · ·	e IARC as Group 2B: Possibly Carcino	genic to Humans.		
CARBON BLACK	Inhalation (rat) TCLo: 50 mg/m3/6h/90D-I Nil reported No significant acute toxicological data identified in literature search. WARNING: This substance has been classified by the IARC as Group 2B: Possibly Carcinogenic to Humans.				

SECTION 12 Ecological information

Epoxy 400 Black Part A	Not Available Not Available			Not Available N		Not Available		Not Available		
	Endpoint	Те	st Duration (hr)	Spec	cies		Value	Value		Source
	EC50	72	h	Alga	e or other aquatic plants		>0.2m	g/l	2	
carbon black	EC50	48h		Crus	tacea		33.076-41.968mg/l		g/I	4
	LC50	96	h	Fish			>100m	>100mg/l		2
	NOEC(ECx)	24	h	Crus	tacea		3200m	ng/l		1
	Endpoint		Test Duration (hr)		Species	Value			Source	
sphenol A diglycidyl ether polymer	Not Available		Not Available		Not Available		ailable		Not Avail	able
						1.007.0	anabio		- tot / trai	4510
	Endpoint	То	et Duration (br)	Sn			Ve	alue	Sourc	•
	Endpoint EC50	72	st Duration (hr)		ecies				2	e
o-cresyl glycidyl ether	EC50	48			ae or other aquatic plants istacea			5.1mg/l 8.3mg/l	2	
o-cresyr giycluyr ether	EC50(ECx)				Istacea			10mg/l		vailable
	LC50	24h 96h		Fis				10mg/l	_	vailable
	2000	30		113				ronig/i	NOLA	anabic
	Endpoint	1	Test Duration (hr) Species		Species			Value		Source
	EC50	96h			Algae or other aquatic plants			76.828mg/l		2
hannul alaahal	EC50	7	'2h		Algae or other aquatic pla	ints		500mg/l		2
benzyl alcohol	EC50	4	l8h		Crustacea			230mg/l		2
	LC50	96h		1	Fish			10mg/l		4
	NOEC(ECx)	3	336h		Fish			5.1mg/l		2
	Endpoint	Tes	st Duration (hr)	Specie	Species Value		Sou	rce		
	EC50	72	1	Algae	or other aquatic plants	ther aquatic plants 0.027		27-0.033mg/l		
	EC50	48h	0		Crustacea		0.14mg/l		1	
4-nonylphenol, branched	EC50	96h	1	Algae	Algae or other aquatic plants		0.027mg/l		1	
	NOEC(ECx)	672	2h	Crusta	icea	0	0.0039mg/l		1	
	LC50	96h	96h Fish			0	.13mg/l	3mg/l Not Availa		Available
Legend:		- Aquati	c Toxicity Data 5. ECE		egistered Substances - Ec ic Hazard Assessment Da					
he basis of available evidence o ger, immediate or long-term and c to aquatic organisms, may cau IOT allow product to come in co	I /or delayed, to the use long-term adver	structur se effec	e and/ or functioning c ts in the aquatic envir	of natural ec onment.	osystems.					

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.

For benzyl alcohol: log Kow : 1.1Koc : <5Henry's atm m3 /mol: 3.91E-07BOD 5: 1.55-1.6,33-62%COD : 96%ThOD : 2.519BCF : 4

Bioaccumulation: Not significant

Anaerobic Effects: Significant degradation.

Effects on algae and plankton: Inhibits degradation of glucose

Degradation Biological: Significant processes

Abiotic: RxnOH*,no photochem

Ecotoxicity: Fish LC50 (48 h): fathead minnow 770 mg/l; (72 h): 480 mg/l; (96 h) 460 mg/l.

DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
bisphenol A diglycidyl ether polymer	HIGH	HIGH
o-cresyl glycidyl ether	HIGH	HIGH
benzyl alcohol	LOW	LOW

Ingredient	Persistence: Water/Soil	Persistence: Air
4-nonylphenol, branched	HIGH	HIGH
Bioaccumulative potential		

Ingredient	Bioaccumulation
bisphenol A diglycidyl ether polymer	LOW (LogKOW = 2.6835)
o-cresyl glycidyl ether	LOW (LogKOW = 2.1609)
benzyl alcohol	LOW (LogKOW = 1.1)
4-nonylphenol, branched	LOW (BCF = 271)

Mobility in soil

Ingredient	Mobility		
bisphenol A diglycidyl ether polymer	LOW (KOC = 51.43)		
o-cresyl glycidyl ether	LOW (KOC = 67.93)		
benzyl alcohol	LOW (KOC = 15.66)		
4-nonylphenol, branched	LOW (KOC = 56010)		

SECTION 13 Disposal considerations

Vaste treatment methods	
	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.
Product / Packaging disposal	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 Management Authority for disposal.

SECTION 14 Transport information

Labels Required

Marine Pollutant	

Shipping container and transport vehicle placarding and labeling may vary from the below information. Products that are regulated for transport will be packaged and marked as Dangerous Goods in Limited Quantities according to US DOT, IATA and IMDG regulations. In case of reshipment, it is the responsibility of the shipper to determine the appropriate labels and markings in accordance with applicable transport regulations.

Land transport (DOT)

14.1. UN number or ID number	3082	3082		
14.2. UN proper shipping name	Environmentally hazard	nvironmentally hazardous substance, liquid, n.o.s. (contains bisphenol A diglycidyl ether polymer)		
14.3. Transport hazard class(es)	Class Subsidiary Hazard	9 Not Applicable		
14.4. Packing group	Ш	III		
14.5. Environmental hazard	Environmentally hazardous			
14.6. Special precautions for user	Hazard Label Special provisions	9 8, 146, 173, 335, 441, 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 (5 kg or 5 L) - 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 (5 kg or 5 L) -

Regulated and classified as below:

Air transport (ICAO-IATA / DGR)

14.1. UN number	3082			
14.2. UN proper shipping name	Environmentally hazardous substar	nce, liquid, n.o.s. (contains bi	sphenol A diglycidyl ether i	polymer)
14.3. Transport hazard class(es)	ICAO/IATA Class ICAO / IATA Subsidiary Hazard	9 Not Applicable		
01033(03)	ERG Code	9L		
14.4. Packing group	III			
14.5. Environmental hazard	Environmentally hazardous			
14.6. Special precautions for user	Special provisions		A97 A158 A197 A215	
	Cargo Only Packing Instructions		964	
	Cargo Only Maximum Qty / Pack		450 L	
	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)

14.1. UN number 3082	3082	
14.2. UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains bisphenol A diglycidyl ether polymer)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains bisphenol A diglycidyl ether polymer)	
14.3. Transport hazard IMDG Class 9		
class(es) IMDG Subsidiary Hazard Not Applicable		
14.4. Packing group III		
14.5 Environmental hazard Marine Pollutant		
EMS Number F-A, S-F		
14.6. Special precautions for user Special provisions 274 335 969		
Limited Quantities 5 L		

14.7.1. Transport in bulk according to Annex II of MARPOL and the IBC code Not Applicable

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

Product name	Group
carbon black	Not Available
bisphenol A diglycidyl ether polymer	Not Available
o-cresyl glycidyl ether	Not Available
benzyl alcohol	Not Available
4-nonylphenol, branched	Not Available

14.7.3. Transport in bulk in accordance with the IGC Code

Product name	Ship Type
carbon black	Not Available
bisphenol A diglycidyl ether polymer	Not Available
o-cresyl glycidyl ether	Not Available
benzyl alcohol	Not Available
4-nonylphenol, branched	Not Available

SECTION 15 Regulatory information

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

carbon black is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List US - Massachusetts - Right To Know Listed Chemicals International Agency for Research on Cancer (IARC) - Agents Classified by the IARC US DOE Temporary Emergency Exposure Limits (TEELs) Monographs US NIOSH Carcinogen List International Agency for Research on Cancer (IARC) - Agents Classified by the IARC US NIOSH Recommended Exposure Limits (RELs) Monographs - Group 2B: Possibly carcinogenic to humans US OSHA Permissible Exposure Limits (PELs) Table Z-1 International WHO List of Proposed Occupational Exposure Limit (OEL) Values for US OSHA Permissible Exposure Limits (PELs) Table Z-3 Manufactured Nanomaterials (MNMS) US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory US - Alaska Air Quality Control - Concentrations Triggering an Air Quality Episode for Air Pollutants Other Than PM-2.5 US - California Proposition 65 - Carcinogens US - California Safe Drinking Water and Toxic Enforcement Act of 1986 - Proposition 65 List 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 o-cresyl glycidyl ether is found on the following regulatory lists US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory benzyl alcohol is found on the following regulatory lists US - Massachusetts - Right To Know Listed Chemicals US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory US AIHA Workplace Environmental Exposure Levels (WEELs) US Toxicology Excellence for Risk Assessment (TERA) Workplace Environmental US DOE Temporary Emergency Exposure Limits (TEELs) Exposure Levels (WEEL) 4-nonylphenol, branched is found on the following regulatory lists Chemical Footprint Project - Chemicals of High Concern List US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory US DOE Temporary Emergency Exposure Limits (TEELs) US TSCA Section 12(b) - List of Chemical Substances Subject to Export Notification Requirements US EPCRA Section 313 Chemical List US TSCA Section 4/12 (b) - Sunset Dates/Status Federal Regulations Superfund Amendments and Reauthorization Act of 1986 (SARA) 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 Acute toxicity (any route of exposure) No Reproductive toxicity Yes Skin Corrosion or Irritation Yes Respiratory or Skin Sensitization Yes Serious eye damage or eye irritation Yes Specific target organ toxicity (single or repeated exposure) No No Aspiration Hazard Germ cell mutagenicity Yes Simple Asphyxiant No Hazards Not Otherwise Classified No

US. EPA CERCLA Hazardous Substances and Reportable Quantities (40 CFR 302.4) None Reported

State Regulations

US. California Proposition 65

MARNING: This product can expose you to chemicals including carbon black, which is known to the State of California to cause cancer. For more information, go to www.P65Warnings.ca.gov

National Inventory Status

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	Yes

National Inventory	Status
Canada - DSL	Yes
Canada - NDSL	No (carbon black; bisphenol A diglycidyl ether polymer; o-cresyl glycidyl ether; benzyl alcohol)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	No (bisphenol A diglycidyl ether polymer)
Japan - ENCS	No (bisphenol A diglycidyl ether polymer)
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	Yes
Taiwan - TCSI	Yes
Mexico - INSQ	No (o-cresyl glycidyl ether)
Vietnam - NCI	Yes
Russia - FBEPH	No (o-cresyl glycidyl ether)
Legend:	Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.

SECTION 16 Other information

Revision Date	10/23/2023
Initial Date	06/08/2021

CONTACT POINT

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

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
- TEEL: Temporary Emergency Exposure Limit.
- ▶ 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
- ۶ BEI: Biological Exposure Index
- ٠ DNEL: Derived No-Effect Level
- PNEC: Predicted no-effect concentration
- AIIC: Australian Inventory of Industrial Chemicals
- DSL: Domestic Substances List
- ٠ NDSL: Non-Domestic Substances List
- IECSC: Inventory of Existing Chemical Substance in China
- EINECS: European INventory of Existing Commercial chemical Substances ٠
- ELINCS: European List of Notified Chemical Substances
- ٠ 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
- ۲ TCSI: Taiwan Chemical Substance Inventory
- INSQ: Inventario Nacional de Sustancias Químicas
- NCI: National Chemical Inventory ٠
- ▶ FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

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