

Vapor Prime Primer A ICP Construction Inc

Version No: 3.4

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

Issue Date: **09/16/2024** Print Date: **09/16/2024** S.GHS.USA.EN

SECTION 1 Identification

Product Identifier

Product name	Vapor Prime Primer A	
Synonyms	Not Available	
Proper shipping name	Resin Solution, flammable	
Other means of identification	Not Available	

Recommended use of the chemical and restrictions on use

Relevant identified uses Primer

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

Registered company name	ICP Construction Inc		
Address	0 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

<u> </u>		
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

NFPA 704 diamond



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

Flammable Liquids Category 2, Skin Corrosion/Irritation Category 2, Sensitisation (Skin) Category 1, Serious Eye Damage/Eye Irritation Category 1

Label elements

Hazard pictogram(s)







Signal word

Danger

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H225	lighly flammable liquid and vapour.	
H315	Causes skin irritation.	
H317	May cause an allergic skin reaction.	
H318	Causes serious eye damage.	

Hazard(s) not otherwise classified

Not Applicable

Precautionary statement(s) Prevention

1 Todationary Statement (b) 1 Tovernion			
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.		
P233	Keep container tightly closed.		
P240	Ground/bond container and receiving equipment.		
P241	Use explosion-proof electrical/ventilating/lighting/intrinsically safe equipment.		
P242	Use only non-sparking tools.		
P243	Take precautionary measures against static discharge.		
P261	Avoid breathing mist/vapours/spray.		
P264	Wash all exposed external body areas thoroughly after handling.		
P272	Contaminated work clothing must not be allowed out of the workplace.		
P280	Wear protective gloves, protective clothing, eye protection and face protection.		

Precautionary statement(s) Response

P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.			
P310	mediately call a POISON CENTER/doctor/physician/first aider.			
P370+P378	case of fire: Use alcohol resistant foam or normal protein foam to extinguish.			
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.			
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.			
P362+P364	Take off contaminated clothing and wash it before reuse.			

Precautionary statement(s) Storage

P403+P235 Store in a well-ventilated place. Keep cool.

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	
68915-81-1	5-10	linseed oil/ BADGE/ formaldehyde/ diethylenetriamine polymer	
4067-16-7	0.1-1	pentaethylenehexamine	
112-57-2*	0.1-1	tetraethylenepentamine.	
111-40-0	0.1-1	diethylenetriamine	

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

If this product comes in contact with the eyes:

Eye Contact

- Immediately hold eyelids apart and flush the eye continuously with 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.
- ▶ Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.
- ► Transport to hospital or doctor without delay.
- ▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

Skin Contact

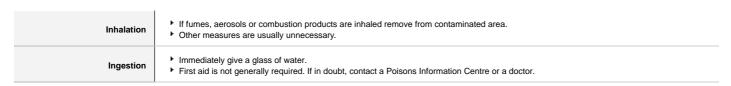
If skin contact occurs:

- 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.

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Most important symptoms and effects, both acute and delayed

See Section 11

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5 Fire-fighting measures

Extinguishing media

- ▶ Foam
- ► Dry chemical powder.
- ► BCF (where regulations permit).

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

Special protective equipment and precautions for fire-fighters				
Fire Fighting	 Alert Fire Brigade and tell them location and nature of hazard. May be violently or explosively reactive. Wear breathing apparatus plus protective gloves in the event of a fire. 			
Fire/Explosion Hazard	Liquid and vapour are highly flammable. Severe fire hazard when exposed to heat, flame and/or oxidisers. Vapour may travel a considerable distance to source of ignition. Combustion products include: carbon dioxide (CO2) nitrogen oxides (NOx) 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

The state of the s			
Minor Spills	 Remove all ignition sources. Clean up all spills immediately. Avoid breathing vapours and contact with skin and eyes. 		
Major Spills	 Clear area of personnel and move upwind. Alert Fire Brigade and tell them location and nature of hazard. May be violently or explosively reactive. 		

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

SECTION 7 Handling and storage

Precautions for safe handling | Containers, even those that have been emptied, may contain explosive vapours. | Do NOT cut, drill, grind, weld or perform similar operations on or near containers. | Avoid all personal contact, including inhalation. | Wear protective clothing when risk of exposure occurs. | Use in a well-ventilated area. | DO NOT allow clothing wet with material to stay in contact with skin | Store in original containers in approved flame-proof area. | No smoking, naked lights, heat or ignition sources. | DO NOT store in pits, depression, basement or areas where vapours may be trapped.

Conditions for safe storage, including any incompatibilities

	Packing as
Suitable container	▶ Plastic cont

- Packing as supplied by manufacturer.
- Plastic containers may only be used if approved for flammable liquid.
- ► Check that containers are clearly labelled and free from leaks.

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- For low viscosity materials (i): Drums and jerry cans must be of the non-removable head type. (ii): Where a can is to be used as an inner package, the can must have a screwed enclosure.
- For materials with a viscosity of at least 2680 cSt.

- ▶ are highly reactive with acids, bases, and oxidising and reducing agents.
- react, possibly violently, with anhydrous metal chlorides, ammonia, amines and group 1 metals.
- ▶ may polymerise in the presence of peroxides or heat polymerisation may be violent
- ▶ may react, possibly violently, with water in the presence of acids and other catalysts.

Formaldehyde:

- ▶ is a strong reducing agent
- ready may polymerise in air unless properly inhibited (usually with methanol up to 15%) and stored at controlled temperatures
- will polymerize with active organic material such as phenol
- reacts violently with strong oxidisers, hydrogen peroxide, potassium permanganate, acrylonitrile, caustics (sodium hydroxide, yielding formic acid and flammable hydrogen), magnesium carbonate, nitromethane, nitrogen oxides (especially a elevated temperatures), peroxyformic
- is incompatible with strong acids (hydrochloric acid forms carcinogenic bis(chloromethyl)ether*), amines, ammonia, aniline, bisulfides, gelatin, iodine, magnesite, phenol, some monomers, tannins, salts of copper, iron, silver.
- acid catalysis can produce impurities: methylal, methyl formate

Aqueous solutions of formaldehyde:

- ▶ slowly oxidise in air to produce formic acid
- attack carbon steel

Storage incompatibility

Concentrated solutions containing formaldehyde are:

- unstable, both oxidising slowly to form formic acid and polymerising; in dilute aqueous solutions formaldehyde appears as monomeric hydrate (methylene glycol) - the more concentrated the solution the more polyoxymethylene glycol occurs as oligomers and polymers (methanol and amine-containing compounds inhibit polymer formation)
- readily subject to polymerisation, at room temperature, in the presence of air and moisture, to form paraformaldehyde (8-100 units of formaldehyde), a solid mixture of linear polyoxymethylene glycols containing 90-99% formaldehyde; a cyclic trimer, trioxane (CH2O3), may also form

Flammable and/or toxic gases are generated by the combination of aldehydes with azo, diazo compounds, dithiocarbamates, nitrides, and strong reducing agents

*The empirical equation may be used to determine the concentration of bis(chloromethyl)ether (BCME) formed by reaction with HCI: $log(BCME)ppb = -2.25 + 0.67 \cdot log(HCHO) ppm + 0.77 \cdot log(HCl)ppm$

Assume values for formaldehyde, in air, of 1 ppm and for HCl of 5 ppm, resulting BCME concentration, in air, would be 0.02 ppb. 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
- ▶ Avoid reaction with oxidising agents

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
US NIOSH Recommended Exposure Limits (RELs)	diethylenetriamine	Diethylenetriamine	1 ppm / 4 mg/m3	Not Available	Not Available	[skin]

Emergency Limits

Ingredient	TEEL-1	TEEL-2	TEEL-3
tetraethylenepentamine	15 mg/m3	130 mg/m3	790 mg/m3
diethylenetriamine	3 ppm	8.5 ppm	51 ppm

Ingredient	Original IDLH	Revised IDLH
linseed oil/ BADGE/ formaldehyde/ diethylenetriamine polymer	Not Available	Not Available
pentaethylenehexamine	Not Available	Not Available
tetraethylenepentamine	Not Available	Not Available
diethylenetriamine	Not Available	Not Available

Occupational Exposure Banding

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit	
linseed oil/ BADGE/ formaldehyde/ diethylenetriamine polymer	E	≤ 0.01 mg/m³	
pentaethylenehexamine	E	≤ 0.1 ppm	
tetraethylenepentamine	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.

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Exposure controls

Appropriate engineering controls

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

Process controls which involve changing the way a job activity or process is done to reduce the risk.

Individual protection measures, such as personal protective equipment









Eve and face protection

- Safety glasses with side shields.
- Chemical goggles. [AS/NZS 1337.1, EN166 or national equivalent]
- ▶ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants.

Skin protection

See Hand protection below

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.
- Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed.

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.

The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.

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.
- · Neoprene from excellent to fair
- · Polyvinyl (PVC) from excellent to poor
- As defined in ASTM F-739-96 · Excellent breakthrough time > 480 min
- · Good breakthrough time > 20 min
- · Fair breakthrough time < 20 min
- · Poor glove material degradation

Gloves should be tested against each resin system prior to making a selection of the most suitable type.

Body protection

Hands/feet protection

See Other protection below

Other protection

- Overalls.
- PVC Apron. PVC protective suit may be required if exposure severe.
- Some plastic personal protective equipment (PPE) (e.g. gloves, aprons, overshoes) are not recommended as they may produce static electricity.
- For large scale or continuous use wear tight-weave non-static clothing (no metallic fasteners, cuffs or pockets).
- Non sparking safety or conductive footwear should be considered.

Respiratory protection

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

- 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
- 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	Not Available			
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)	-20	Taste	Not Available	

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Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	HIGHLY FLAMMABLE.	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	Not Available	pH as a solution (1%)	Not Available
Vapour density (Air = 1)	Not Available	VOC g/L	<5 when mixed as intended
Heat of Combustion (kJ/g)	Not Available	Ignition Distance (cm)	Not Available
Flame Height (cm)	Not Available	Flame Duration (s)	Not Available
Enclosed Space Ignition Time Equivalent (s/m3)	Not Available	Enclosed Space Ignition Deflagration Density (g/m3)	Not Available

SECTION 10 Stability and reactivity

Reactivity	See section 7
Chemical stability	 Unstable in the presence of incompatible materials. Product is considered stable. Hazardous polymerisation will not occur.
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

TOXICITY

Not Available

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Information	on	toxicological	effects
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Inhaled	The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.
Ingestion	Animal testing showed that a single dose of bisphenol A diglycidyl ether (BADGE) given by mouth, caused an increase in immature sperm. The material has NOT been classified by EC Directives or other classification systems as 'harmful by ingestion'. This is because of the lack of corroborating animal or human evidence.
Skin Contact	This material can cause inflammation of the skin on contact in some persons. The material may accentuate any pre-existing dermatitis condition Skin contact is not thought to have harmful health effects (as classified under EC Directives); the material may still produce health damage following entry through wounds, lesions or abrasions. 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. 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.
Еуе	If applied to the eyes, this material causes severe eye damage.
Chronic	Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population. Toxic: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed. This material can cause serious damage if one is exposed to it for long periods. It can be assumed that it contains a substance which can produce severe defects. Ample evidence exists that this material directly causes reduced fertility 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 dermatitis may last longer following each exposure, but is unlikely to become more intense. 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. Glycidyl ethers can cause genetic damage and cancer. There has been some concern that this material can cause cancer or mutations but there is not enough data to make an assessment.

IRRITATION

Not Available

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linseed oil/ BADGE/ formaldehyde/	TOXICITY IRRITATION		RITATION			
diethylenetriamine polymer	Not Available Not Available		ot Available			
nontaethylenehovemine	TOXICITY			IRRITATION		
pentaethylenehexamine	Oral (Rat) LD50: 1600 mg/kg ^[2]			Not Available		
	TOXICITY	IR	RRITATION			
	Dermal (rabbit) LD50: 660 mg/kg ^[2]	Ey	ye (rabbit): 100 mg/24h	moderate		
tetraethylenepentamine	Oral (Rat) LD50: 3990 mg/kg ^[2]	Ey	ye (rabbit): 5 mg moder	rate		
		Sk	kin (rabbit): 495 mg SE	SEVERE		
		Sk	kin (rabbit): 5 mg/24h S	EVERE		
	-					
	TOXICITY	IRRITAT	TION			
	Dermal (rabbit) LD50: 1090 mg/kg ^[2]	Eye: adv	verse effect observed (irritating) ^[1]		
diethylenetriamine	Oral (Rat) LD50: 1080 mg/kg ^[2]	Skin (ral	bbit): 10 mg/24h - SEV	ERE		
		Skin (ral	bbit):500 mg open mod	lerate		
		Skin: ad	dverse effect observed ((corrosive) ^[1]		
Legend:	Value obtained from Europe ECHA Registered Subs specified data extracted from RTECS - Register of Toxi		•	m manufacturer's SDS. Unless otherwise		
	,					
Vapor Prime Primer A	Oxiranes (including glycidyl ethers and alkyl oxides, and such oxirane is ethyloxirane; data presented here may		•	stics with respect to animal toxicology. One		
	No significant acute toxicological data identified in litera					
LINSEED OIL/ BADGE/	Bisphenol A diglycidyl ethers (BADGEs) produce a sen- papules, with considerable itching of the back of the ha					
FORMALDEHYDE/ DIETHYLENETRIAMINE	on re-exposure. The dermatitis may last longer following	ng each exposure, but	t is unlikely to become r	more intense.		
POLYMER	Bisphenol A may have effects similar to female sex normones and when administered to pregnant women, may damage the foeths, it may als					
	Glycidyl ethers can cause genetic damage and cancer.					
	The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.					
	The material may produce respiratory tract irritation, an The material may cause skin irritation after prolonged o	-				
	vesicles, scaling and thickening of the skin.		and may produce on co	oritact skirr reuriess, swelling, the production of		
	Overexposure to most of these materials may cause ad Many amine-based compounds can cause release of h	nistamines, which, in to	turn, can trigger allergic	and other physiological effects, including		
PENTAETHYLENEHEXAMINE	constriction of the bronchi or asthma and inflammation anxiety, a decrease in blood pressure, rapid heartbeat,					
PENTACTITICENCITEARMINE	transient.		,			
	There are generally four routes of possible or potential Inhalation: Inhaling vapours may result in moderate to s			, ,		
	concentrations of certain amines can produce severe re breathing and chest pain.	espiratory irritation, ch	haracterized by dischar	ge from the nose, coughing, difficulty in		
	Pentaethylenehexamine has not been evaluated in mar		, ,	,		
	related polyamines show that they do not produce tumours. Pentaethylenehexamine causes increased secretion of certain metals, including copper and cadmium, in rats.					
	The material may produce moderate eye irritation leading	ing to inflammation. R	Repeated or prolonged	exposure to irritants may produce		
	conjunctivitis. Triethylenetetramine is a severe irritant to skin and eye.	es and may induce ski	in sensitisation. Acute e	exposure to saturated vapour via inhalation		
tetraethylenepentamine	was tolerated without impairment but exposure to aeros done on experimental animals showed that it does not of					
	Tetraethylenepentamine (TEPA) has a low acute toxicity	ty when taken orally a	and a higher toxicity via	the dermal route most likely due to the		
	corrosive nature of TEPA to the skin against neutralizat application may cause thickening of the epidermis and	•	TEPA may be corrosive	e to the skin and eyes. Long term dermal		
	Allergic reactions involving the respiratory tract are usual	ually due to interaction	ns between IgE antibod	ies and allergens and occur rapidly. Allergic		
	potential of the allergen and period of exposure often do others, and exposure to other irritants may aggravate s		of symptoms. Some pe	eople may be genetically more prone than		
DIETHYLENETRIAMINE	Attention should be paid to atopic diathesis, characteris	sed by increased susc				
	Exogenous allergic alveolitis is induced essentially by a lymphocytes) may be involved. Such allergy is of the de	• .	, ,	* ** *		
	The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.					
Vapor Prime Primer A &	,					
LINSEED OIL/ BADGE/ FORMALDEHYDE/						
DIETHYLENETRIAMINE	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					
POLYMER & PENTAETHYLENEHEXAMINE	eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type.					

& tetraethylenepentamine & DIETHYLENETRIAMINE

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Vapor Prime Primer A & LINSEED OIL/ BADGE/ FORMALDEHYDE/ DIETHYLENETRIAMINE 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.

Cancer-causing potential: It has been concluded that bisphenol A diglycidyl ether cannot be classified with respect to its cancer-causing potential in humans.

Genetic toxicity: Laboratory tests on genetic toxicity of BADGE have so far been negative.

Immunotoxicity: Animal testing suggests regular injections of diluted BADGE may result in sensitization.

Consumer exposure: Comsumer exposure to BADGE is almost exclusively from migration of BADGE from can coatings into food.

PENTAETHYLENEHEXAMINE & tetraethylenepentamine & DIETHYLENETRIAMINE

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. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant.

Ethyleneamines are very reactive and can cause chemical burns, skin rashes and asthma-like symptoms. It is readily absorbed through the skin and may cause eye blindness and irreparable damage. As such, they require careful handling. For alkyl polyamines:

The alkyl polyamines cluster consists of two terminal primary and at least one secondary amine groups and are derivatives of low molecular weight ethylenediamine, propylenediamine or hexanediamine. Toxicity depends on route of exposure. Cluster members have been shown to cause skin irritation or sensitisation, eye irritation and genetic defects, but have not been shown to cause cancer.

tetraethylenepentamine & DIETHYLENETRIAMINE

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 exposures may produce severe ulceration.

Acute Toxicity	X	Carcinogenicity	X
Skin Irritation/Corrosion	→	Reproductivity	X
Serious Eye Damage/Irritation	→	STOT - Single Exposure	X
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

SECTION 12 Ecological information

Γοχ	ic	:4.,	
ω	ıv	ıιy	

Vapor Prime Primer A	Endpoint	Endpoint Test Duration (hr) Species Value		Sour	ce	
Vapor Frime Frimer A	Not Available	Not Available	Not Available	Not Available	Not Available	
linseed oil/ BADGE/ formaldehyde/	Endpoint	Test Duration (hr)	Species	Value	Sour	ce
iethylenetriamine polymer	Not Available	Not Available	Not Available	Not Available	Not A	vailable
	Endpoint	Test Duration (hr)	Species	Value	Sour	ce
pentaethylenehexamine	Not Available	Not Available	Not Available	Not Available	Not A	vailable
	Endpoint	Test Duration (hr)	Species		Value	Source
	EC50	72h	Algae or other aquatic pla	ante	2.1mg/l	1
tetraethylenepentamine		48h		ants	-	
	EC50	-	Crustacea		24.1mg/l	1
	NOEC(ECx)	72h	Algae or other aquatic pla	ants	0.5mg/l	1
	Endpoint	Test Duration (hr)	Species		Value	Source
	BCF	1008h	Fish		<0.3-1.7	7
	EC50	72h	Algae or other aquatic pla	ints	1164mg/l	1
	NOEC(ECx)	504h	Crustacea		5.6mg/l	1
diethylenetriamine	EC50	48h	Crustacea		16mg/l	1
	ErC50	72h	Algae or other aquatic pla	ints	1164mg/l	1
	LC50	96h	Fish		175mg/l	2
	EC50	96h	Algae or other aquatic pla	ints	345.6mg/l	1

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

- Bioconcentration Data 8. Vendor Data

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.

Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan)

Wastes resulting from use of the product must be disposed of on site or at approved waste sites.

Significant environmental findings are limited. Oxiranes (including glycidyl ethers and alkyl oxides, and epoxides) exhibit common characteristics with respect to environmental fate and ecotoxicology. One such oxirane is ethyloxirane and data presented here may be taken as representative.

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For 1,2-Butylene oxide (Ethyloxirane):

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

Aquatic Fate - Ethyloxirane is highly soluble in water and has a very low soil-adsorption coefficient, which suggests that, if released to water, adsorption of ethyloxirane to sediment and suspended solids is not expected.

DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
pentaethylenehexamine	LOW	LOW
tetraethylenepentamine	LOW	LOW
diethylenetriamine	LOW	LOW

Bioaccumulative potential

Ingredient	Bioaccumulation		
pentaethylenehexamine	LOW (LogKOW = -3.6744)		
tetraethylenepentamine	LOW (LogKOW = -3.1604)		
diethylenetriamine	LOW (BCF = 1.7)		

Mobility in soil

Ingredient	Mobility		
pentaethylenehexamine	LOW (Log KOC = 3887)		
tetraethylenepentamine	LOW (Log KOC = 1098)		
diethylenetriamine	LOW (Log KOC = 87.53)		

SECTION 13 Disposal considerations

Waste treatment methods

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

Otherwise:

If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill.

Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.

Product / Packaging disposal

- ▶ 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.
- In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.
- Recycle wherever possible.
- Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified.
- Dispose of by: burial in a land-fill specifically licensed to accept chemical and / or pharmaceutical wastes or Incineration in a licensed apparatus (after admixture with suitable combustible material).

SECTION 14 Transport information

Labels Required



Marine Pollutant

NO

Shipping container, transport vehicle placarding, and labeling may vary from the below information. This depends on the quantity shipped, the applicability of excepted quantity requirements, limited quantity requirements, and/or special provisions 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	1866	1866		
14.2. UN proper shipping name	Resin Solution, flammable			
14.3. Transport hazard class(es)	Class Subsidiary Hazard	3 Not Applicable		
14.4. Packing group	III			
14.5. Environmental hazard	Not Applicable			

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Vapor Prime Primer A

14.6. Special precautions for	Hazard Label	3
user	Special provisions	B1, B52, IB3, T2, TP1

Air transport (ICAO-IATA / DGF	R)				
14.1. UN number	1866				
14.2. UN proper shipping name	Resin solution flammable				
	ICAO/IATA Class	ICAO/IATA Class 3			
14.3. Transport hazard class(es)	ICAO / IATA Subsidiary Hazard	Not Applicable			
01455(05)	ERG Code	3L			
14.4. Packing group	Ш				
14.5. Environmental hazard	Not Applicable				
	Special provisions	A3			
	Cargo Only Packing Instructions	366			
	Cargo Only Maximum Qty / Pack		220 L		
14.6. Special precautions for user	Passenger and Cargo Packing Instructions		355		
	Passenger and Cargo Maximum Qty / Pack		60 L		
	Passenger and Cargo Limited Quantity Packing Instructions		Y344		
	Passenger and Cargo Limited Maximum Qty / Pack		10 L		

Sea transport (IMDG-Code / GGVSee)

14.1. UN number	1866		
14.2. UN proper shipping name	RESIN SOLUTION flammable		
14.3. Transport hazard class(es)	IMDG Class 3 IMDG Subsidiary Hazard Not Applicable		
14.4. Packing group	III.		
14.5 Environmental hazard	Not Applicable		
14.6. Special precautions for user	EMS Number F-E , S-E Special provisions 223 955 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
linseed oil/ BADGE/ formaldehyde/ diethylenetriamine polymer	Not Available
pentaethylenehexamine	Not Available
tetraethylenepentamine	Not Available
diethylenetriamine	Not Available

14.7.3. Transport in bulk in accordance with the IGC Code

Product name	Ship Type
linseed oil/ BADGE/ formaldehyde/ diethylenetriamine polymer	Not Available
pentaethylenehexamine	Not Available
tetraethylenepentamine	Not Available
diethylenetriamine	Not Available

SECTION 15 Regulatory information

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

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linseed oil/ BADGE/ formaldehyde/ diethylenetriamine polymer is found on the following regulatory lists

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

pentaethylenehexamine is found on the following regulatory lists

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

tetraethylenepentamine is found on the following regulatory lists

US - Massachusetts - Right To Know Listed Chemicals

US AIHA Workplace Environmental Exposure Levels (WEELs)

US DOE Temporary Emergency Exposure Limits (TEELs)

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

US Toxicology Excellence for Risk Assessment (TERA) Workplace Environmental Exposure Levels (WEEL)

diethylenetriamine is found on the following regulatory lists

US - Massachusetts - Right To Know Listed Chemicals

US DOE Temporary Emergency Exposure Limits (TEELs)

US NIOSH Recommended Exposure Limits (RELs)

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

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

Additional Regulatory Information

Not Applicable

Federal Regulations

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Section 311/312 hazard categories

Flammable (Gases, Aerosols, Liquids, or Solids)	Yes	
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	No	
Acute toxicity (any route of exposure)	No	
Reproductive toxicity	No	
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	
Aspiration Hazard	No	
Germ cell mutagenicity	No	
Simple Asphyxiant	No	
Hazards Not Otherwise Classified		

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

None Reported

US. EPCRA Section 313 Toxic Release Inventory (TRI) (40 CFR 372)

None Reported

Additional Federal Regulatory Information

Not Applicable

State Regulations

US. California Proposition 65

None Reported

Additional State Regulatory Information

Not Applicable

National Inventory Status

National Inventory Status

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National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	Yes
Canada - DSL	Yes
Canada - NDSL	No (linseed oil/ BADGE/ formaldehyde/ diethylenetriamine polymer; pentaethylenehexamine; tetraethylenepentamine; diethylenetriamine)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	No (linseed oil/ BADGE/ formaldehyde/ diethylenetriamine polymer)
Japan - ENCS	No (linseed oil/ BADGE/ formaldehyde/ diethylenetriamine polymer)
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	Yes
Taiwan - TCSI	Yes
Mexico - INSQ	No (linseed oil/ BADGE/ formaldehyde/ diethylenetriamine polymer; pentaethylenehexamine)
Vietnam - NCI	Yes

SECTION 16 Other information

Revision Date	09/16/2024
Initial Date	11/16/2019

No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.

No (linseed oil/ BADGE/ formaldehyde/ diethylenetriamine polymer)

Yes = All CAS declared ingredients are on the inventory

CONTACT POINT

Russia - FBEPH

Legend:

SDS Version Summary

Version	Date of Update	Sections Updated
2.4	09/16/2024	Toxicological information - Acute Health (swallowed), Hazards identification - Classification, Ecological Information - Environmental, Exposure controls / personal protection - Exposure Standard, Firefighting measures - Fire Fighter (fire/explosion hazard), Firefighting measures - Fire Fighter (fire incompatibility), Composition / information on ingredients - Ingredients, Handling and storage - Storage (storage incompatibility)

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. Risks may be determined by reference to Exposures Scenarios.

Powered by AuthorITe, from Chemwatch.

^{**}PLEASE NOTE THAT TITANIUM DIOXIDE IS NOT PRESENT IN CLEAR OR NEUTRAL BASES**

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Vapor Prime Primer A



Vapor Prime Primer B

ICP Construction Inc.

Version No: **4.6**Safety Data Sheet according to OSHA HazCom Standard (2012) requirements

Issue Date: **10/07/2024** Print Date: **10/07/2024** S.GHS.USA.EN

SECTION 1 Identification

Product Identifier

Product name	Vapor Prime Primer B
Synonyms	Not Available
Other means of identification	Not Available

Recommended use of the chemical and restrictions on use

Relevant identified use	s Primer

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	-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

NFPA 704 diamond



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

Skin Corrosion/Irritation Category 2, Sensitisation (Skin) Category 1, Serious Eye Damage/Eye Irritation Category 2A, Specific Target Organ Toxicity - Single Exposure (Respiratory Tract Irritation) Category 3, Hazardous to the Aquatic Environment Long-Term Hazard Category 3

Label elements

Hazard pictogram(s)



Signal word

Warnin

Hazard statement(s)

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.

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H412	Harmful to aquatic life with long lasting effects.

Hazard(s) not otherwise classified

Not Applicable

Precautionary statement(s) Prevention

P271	P271 Use only outdoors or in a well-ventilated area.	
P261	Avoid breathing mist/vapours/spray.	
P273	Avoid release to the environment.	
P280	Wear protective gloves, protective clothing, eye protection and face protection.	
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

P370+P378	In case of fire: Use alcohol resistant foam or normal protein foam to extinguish.	
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.	
P312	Call a POISON CENTER/doctor/physician/first aider/if you feel unwell.	
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.	
P337+P313	If eye irritation persists: Get medical advice/attention.	
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.	
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.	
P362+P364	Take off contaminated clothing and wash it before reuse.	

Precautionary statement(s) Storage

P405	Store locked up.	
P403+P233	Store in a well-ventilated place. Keep container tightly closed.	

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
9003-36-5	80-100	phenol/ formaldehyde glycidyl ether copolymer
120547-52-6	5-10	(C12-13)alkylglycidyl ether
2530-83-8	1-5	gamma-glycidoxypropyltrimethoxysilane

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 eyes: > Wash out immediately with water. > If irritation continues, 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	 Immediately give a glass of water. First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor. 	

Most important symptoms and effects, both acute and delayed

See Section 11

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5 Fire-fighting measures

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Vapor Prime Primer B

Extinguishing media

- Foam
- Drv chemical powder.
- ▶ BCF (where regulations permit).

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.
- Prevent, by any means available, spillage from entering drains or water course.

Fire/Explosion Hazard

Combustible.Slight fire hazard when exposed to heat or flame.

▶ Heating may cause expansion or decomposition leading to violent rupture of containers.

Combustion products include:

carbon dioxide (CO2)

other pyrolysis products typical of burning organic material.

May emit corrosive fumes

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 Spill

- ▶ Remove all ignition sources.
- Clean up all spills immediately.
- Avoid breathing vapours and contact with skin and eyes.

Major Spills

Moderate hazard.

- ▶ Clear area of personnel and move upwind.
- ▶ Alert Fire Brigade and tell them location and nature of 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.
- Use in a well-ventilated area.
- ▶ DO NOT allow clothing wet with material to stay in contact with skin

Other information

- ▶ Store in original containers.
- Keep containers securely sealed.
- ► No smoking, naked lights or ignition sources.

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

Avoid reaction with oxidising agents

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Not Available

Emergency Limits

Ingredient	TEEL-1	TEEL-2		TEEL-3
gamma- glycidoxypropyltrimethoxysilane	9.3 mg/m3	100 mg/m3		230 mg/m3
Ingredient	Original IDLH		Revised IDLH	
phenol/ formaldehyde glycidyl ether copolymer	Not Available		Not Available	
(C12-13)alkylglycidyl ether	Not Available		Not Available	

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Ingredient	Original IDLH	Revised IDLH		
gamma- glycidoxypropyltrimethoxysilane	Not Available Not Available			
Occupational Exposure Banding				
Ingredient	Occupational Exposure Band Rating Occupational Exposure Band Limit			
phenol/ formaldehyde glycidyl ether copolymer	Е	≤ 0.1 ppm		
(C12-13)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 be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. Appropriate engineering The basic types of engineering controls are: controls Process controls which involve changing the way a job activity or process is done to reduce the risk. Individual protection measures, such as personal protective equipment Safety glasses with side shields. Chemical goggles. [AS/NZS 1337.1, EN166 or national equivalent] Eye and face protection • Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. Skin protection See Hand protection below ▶ Wear chemical protective gloves, e.g. PVC. Wear safety footwear or safety gumboots, e.g. Rubber 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. Hands/feet protection ▶ Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed. 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 The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice. **Body protection** See Other protection below

Respiratory protection

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

Overalls.

P.V.C apron.Barrier cream.

- 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

Other protection

Appearance Not Available Physical state Liquid Relative density (Water = 1) Not Available Odour Not Available Partition coefficient n-octanol / water 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) 150 Taste Not Available Evaporation rate Not Available Evaporation rate Not Available Evaporation rate Not Available	Information on basic physical and chemical properties				
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) 150 Taste Not Available	Appearance	Not Available			
Odour threshold Not Available / water / water Odour threshold Not Available Auto-ignition temperature (°C) Not Available PH (as supplied) Not Available Decomposition temperature (°C) Not Available Viscosity (cSt) Not Available	Physical state	Liquid	Relative density (Water = 1)	Not Available	
pH (as supplied) Not Available pH (as supplied) Not Available Decomposition temperature (°C) Melting point / freezing point (°C) Initial boiling point and boiling range (°C) Not Available Molecular weight (g/mol) Taste Not Available Not Available Not Available	Odour	Not Available		Not Available	
Melting point / freezing point (°C) Initial boiling point and boiling range (°C) Flash point (°C) Not Available Not Available Not Available Not Available Molecular weight (g/mol) Taste Not Available	Odour threshold	Not Available		Not Available	
Initial boiling point and boiling range (°C) Not Available Molecular weight (g/mol) Not Available Not Available Not Available Not Available	pH (as supplied)	Not Available		Not Available	
boiling range (°C) Not Available Molecular weight (g/mol) Not Available Not Available Not Available		Not Available	Viscosity (cSt)	Not Available	
		Not Available	Molecular weight (g/mol)	Not Available	
Evaporation rate Not Available Explosive properties Not Available	Flash point (°C)	150	Taste	Not Available	
Exposite properties 1000 Manager	Evaporation rate	Not Available	Explosive properties	Not Available	
Flammability Not Applicable Oxidising properties Not Available	Flammability	Not Applicable	Oxidising properties	Not Available	

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	ı		1
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	<5 when mixed as intended
Heat of Combustion (kJ/g)	Not Available	Ignition Distance (cm)	Not Available
Flame Height (cm)	Not Available	Flame Duration (s)	Not Available
Enclosed Space Ignition Time Equivalent (s/m3)	Not Available	Enclosed Space Ignition Deflagration Density (g/m3)	Not Available

SECTION 10 Stability and reactivity

Reactivity	See section 7
Chemical stability	 Unstable in the presence of incompatible materials. Product is considered stable. Hazardous polymerisation will not occur.
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	on toxicological effects	on	Information
--------------------------------------	--------------------------	----	-------------

Inhaled	The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.
Ingestion	Reactive diluents exhibit a range of ingestion hazards. Small amounts swallowed incidental to normal handling operations are not likely to cause injury. However, swallowing larger amounts may cause injury. The material has NOT been classified by EC Directives or other classification systems as 'harmful by ingestion'. This is because of the lack of corroborating animal or human evidence. High molecular weight material; on single acute exposure would be expected to pass through gastrointestinal tract with little change / absorption. Occasionally accumulation of the solid material within the alimentary tract may result in formation of a bezoar (concretion), producing discomfort.
Skin Contact	The material is not thought to produce adverse health effects or skin irritation following contact (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting.
Eye	Although the liquid is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn).
Chronic	Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population. This material contains a substantial amount of polymer considered to be of low concern. These are classified under having MWs of between 1000 to 10000 with less than 25% of molecules with MWs under 1000 and less than 10% under 500; or having a molecular weight average of over 10000.

Chronic	This material contains a substantial amount of polymer considered to be of low concern. These are classified under having MWs of between 1000 to 10000 with less than 25% of molecules with MWs under 1000 and less than 10% under 500; or having a molecular weight average of over 10000.

Vanar Brima Brimar B	TOXICITY	IRRITATION	
Vapor Prime Primer B	Not Available	Not Available	
phenol/ formaldehyde glycidyl	TOXICITY		IRRITATION
ether copolymer	Oral (Rat) LD50: >5000 mg/kg ^[2]		Not Available
	TOXICITY	IRRITATION	
(C12-13)alkylglycidyl ether	dermal (rat) LD50: 2000 mg/kg *[2]	Eye (rabbit): mild * * [Ciba]	
	Oral (Rat) LD50: >10000 mg/kg * ^[2]	Skin (g-pig): sensitiser *	
	Oral (Rat) LD50: 10000 mg/kg *[2]	Skin (human): Irritant *	
	Oral (Rat) LD50: 17000 mg/kg ^[2]	Skin (human): non- sensitiser*	
		Skin (rabbit): moder	ate *
gamma-			

gamma-			
glycidoxypropyltrimethoxysilane	TOXICITY	IRRITATION	
	Dermal (rabbit) LD50: 3970 ul/kg ^[2]	Eye: adverse effect observed (irreversible damage) ^[1]	

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Inhalation (Rat) LC50: >5300 mg/m3/4h ^[2]	Skin: no adverse effect observed (not irritating) ^[1]
Oral (Rat) LD50: 22600 uL/kg ^[2]	
Oral (Rat) LD50: 7010 mg/kg ^[2]	

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

phenol/ formaldehyde glycidyl ether copolymer

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. Several derivatives of BPA exhibited significant thyroid hormonal activity towards rat pituitary cell line GH3, which releases growth hormone in a thyroid hormone-dependent manner.

The material may produce moderate eye irritation leading to inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.

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.

(C12-13)alkylglycidyl ether

for (C12-14)alkylglycidyl ether:

Low molecular weight alkoxysilane can cause irreversible lung damage when inhaled at low dose. It is not an obvious skin irritant. However, studies suggest with repeated occupational exposure, methoxysilane may cause damage to the eye and skin as well as cancer.

gammaglycidoxypropyltrimethoxysilane

For gamma-glycidopropyltrimehoxysilane (GPTMS): GPTMS undergoes rapid hydrolysis and the observed toxicity is expected to be due primarily to methanol and silanetriols. GPTMS is mildly irritating to the skin and eyes and is not a known skin sensitiser in humans or in animals. GPTMS has been shown to cause chromosomal damage and gene mutations.

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.

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. Two structurally related substances, oxirane (ethylene oxide) and methyloxirane (propylene oxide), which are also direct-acting alkylating agents, have been classified as causing cancer.

Vapor Prime Primer B & phenol/ formaldehyde glycidyl ether copolymer & (C12-13)alkylglycidyl ether

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.

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:

💢 – Data either not available or does not fill the criteria for classification

— Data available to make classification

SECTION 12 Ecological information

Toxicity

Van as Brima Brimas B	Endpoint	Test Duration (hr)	Species	Value	Source	•
Vapor Prime Primer B	Not Available	Not Available	Not Available	Not Available	Not Ava	ilable
phenol/ formaldehyde glycidyl	Endpoint	Test Duration (hr)	Species	Value	Source	
ether copolymer	Not Available	Not Available	Not Available	Not Available	Not Ava	ilable
(040.40)	Endpoint	Test Duration (hr)	Species	Value	Source	•
(C12-13)alkylglycidyl ether	Not Available	Not Available	Not Available	Not Available	Not Ava	ilable
	Endpoint	Test Duration (hr)	Species		Value	Source
	LC50	96h	Fish		4.9mg/l	2
gamma-	EC50	72h	Algae or other aquatic p	lante	>420mg/l	2

glycidoxypropyltrimethoxysilane

Liiapoiiit	root Buration (iii)	Opooloo	value	Course
LC50	96h	Fish	4.9mg/l	2
EC50	72h	Algae or other aquatic plants	>420mg/l	2
EC50	48h	Crustacea	473mg/l	2
NOEC(ECx)	96h	Fish	1.5mg/l	2
EC50	96h	Algae or other aquatic plants	250mg/l	2

Legend:

Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 4. US EPA,
Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI
(Japan) - Bioconcentration Data 8. Vendor Data

For high molecular weight synthetic polymers: (according to the Sustainable Futures (SF) program (U.S. EPA 2005b; U.S. EPA 2012c) polymer assessment guidance.)

- · to have low vapour pressure and are not expected to undergo volatilization .
- · to adsorb strongly to soil and sediment
- · to be non-biodegradable (not anticipated to be assimilated by microorganisms.- therefore, biodegradation is not expected to be an important removal process. However many exceptions exist

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High MW polymers are not expected to undergo removal by other degradative processes under environmental conditions

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
gamma- glycidoxypropyltrimethoxysilane	HIGH	HIGH

Bioaccumulative potential

Ingredient	Bioaccumulation
gamma- glycidoxypropyltrimethoxysilane	LOW (LogKOW = -0.9152)

Mobility in soil

Ingredient	Mobility
gamma- glycidoxypropyltrimethoxysilane	LOW (Log KOC = 90.22)

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.

Otherwise:

• If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill.

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

their area. In some areas, certain wastes must be tracked.

- ▶ 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.
- In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.
- Recycle wherever possible or consult manufacturer for recycling options.
- ▶ Consult State Land Waste Authority for disposal.
- ▶ Bury or incinerate residue at an approved site.

SECTION 14 Transport information

Labels Required

Land transport (DOT): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

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
phenol/ formaldehyde glycidyl ether copolymer	Not Available
(C12-13)alkylglycidyl ether	Not Available
gamma- glycidoxypropyltrimethoxysilane	Not Available

14.7.3. Transport in bulk in accordance with the IGC Code

Product name	Ship Type
phenol/ formaldehyde glycidyl ether copolymer	Not Available
(C12-13)alkylglycidyl ether	Not Available
gamma- glycidoxypropyltrimethoxysilane	Not Available

SECTION 15 Regulatory information

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

phenol/ formaldehyde glycidyl ether copolymer is found on the following regulatory lists

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

(C12-13)alkylglycidyl ether is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List

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

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

gamma-glycidoxypropyltrimethoxysilane is found on the following regulatory lists

US DOE Temporary Emergency Exposure Limits (TEELs)

US EPA Substance Registry Services (SRS) - 2020 CDR TSCA 4 TR

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

Additional Regulatory Information

Not Applicable

Federal Regulations

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Section 311/312 hazard categories

Flammable (Gases, Aerosols, Liquids, or Solids)	No 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	No
Acute toxicity (any route of exposure)	No
Reproductive toxicity	No
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
Aspiration Hazard	No
Germ cell mutagenicity	No
Simple Asphyxiant	No
Hazards Not Otherwise Classified	No

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

None Reported

US. EPCRA Section 313 Toxic Release Inventory (TRI) (40 CFR 372)

None Reported

Additional Federal Regulatory Information

Not Applicable

State Regulations

US. California Proposition 65

None Reported

Additional State Regulatory Information

Not Applicable

National Inventory Status

Hadional involvery diatab		
National Inventory	Status	
Australia - AIIC / Australia Non- Industrial Use No ((C12-13)alkylglycidyl ether)		
Canada - DSL	Yes	
Canada - NDSL	No (phenol/ formaldehyde glycidyl ether copolymer; (C12-13)alkylglycidyl ether; gamma-glycidoxypropyltrimethoxysilane)	
China - IECSC	Yes	
Europe - EINEC / ELINCS / NLP	No ((C12-13)alkylglycidyl ether)	
Japan - ENCS	Yes	

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National Inventory	Status		
Korea - KECI	Yes		
New Zealand - NZIoC	Yes		
Philippines - PICCS	No ((C12-13)alkylglycidyl ether)		
USA - TSCA	Yes		
Taiwan - TCSI	Yes		
Mexico - INSQ	No ((C12-13)alkylglycidyl ether; gamma-glycidoxypropyltrimethoxysilane)		
Vietnam - NCI	Yes		
Russia - FBEPH	No ((C12-13)alkylglycidyl 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	10/07/2024
Initial Date	08/23/2023

CONTACT POINT

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

SDS Version Summary

Version	Date of Update	Sections Updated
3.6	10/07/2024	Hazards identification - Classification, Composition / information on ingredients - Ingredients

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. Risks may be determined by reference to Exposures Scenarios.

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