



Vapor Solve Primer Part A

ICP Construction Inc

Version No: 1.2
Safety Data Sheet according to OSHA HazCom Standard (2012) requirements

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

SECTION 1 Identification

Product Identifier

| | |
|-------------------------------|---------------------------|
| Product name | Vapor Solve Primer Part 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 | 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

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

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|---------------------|--|
| Hazard pictogram(s) | |
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| | |
|-------------|---------------|
| Signal word | Danger |
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Hazard statement(s)

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|------|--------------------------------------|
| H225 | Highly 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

| | |
|------|--|
| 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 | Immediately call a POISON CENTER/doctor/physician/first aider. |
| P370+P378 | In 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. |
| P302+P352 | IF ON SKIN: Wash with plenty of water. |
| P303+P361+P353 | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. |
| 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

| | |
|-----------|--|
| 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 | <u>linseed oil/ BADGE/ formaldehyde/ diethylenetriamine polymer</u> |
| 4067-16-7 | 0.1-1 | <u>pentaethylenhexamine</u> |
| 112-57-2 | 0.1-1 | <u>tetraethylenepentamine</u> |
| 111-40-0 | 0.1-1 | <u>diethylenetriamine</u> |

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**

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|---------------------|--|
| Eye Contact | <p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> ▶ 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 | <p>If skin contact occurs:</p> <ul style="list-style-type: none"> ▶ 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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| Inhalation | <ul style="list-style-type: none"> ▶ If fumes, aerosols or combustion products are inhaled remove from contaminated area. ▶ Other measures are usually unnecessary. |
| Ingestion | <ul style="list-style-type: none"> ▶ 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

Extinguishing media

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

Special hazards arising from the substrate or mixture

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| 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

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|------------------------------|--|
| Fire Fighting | <ul style="list-style-type: none"> ▶ 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 | <ul style="list-style-type: none"> ▶ 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. <p>Combustion products include: carbon dioxide (CO₂) nitrogen oxides (NO_x) other pyrolysis products typical of burning organic material.</p> |

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

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| Minor Spills | <ul style="list-style-type: none"> ▶ Remove all ignition sources. ▶ Clean up all spills immediately. ▶ Avoid breathing vapours and contact with skin and eyes. |
| Major Spills | <ul style="list-style-type: none"> ▶ 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

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| Safe handling | <ul style="list-style-type: none"> ▶ 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 |
| Other information | <ul style="list-style-type: none"> ▶ 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

| | |
|---------------------------|--|
| Suitable container | <ul style="list-style-type: none"> ▶ 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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| | <ul style="list-style-type: none"> ▶ 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. |
| Storage incompatibility | <p>Epoxides:</p> <ul style="list-style-type: none"> ▶ 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. <p>Formaldehyde:</p> <ul style="list-style-type: none"> ▶ is a strong reducing agent ▶ 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 acid ▶ 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 <p>Aqueous solutions of formaldehyde:</p> <ul style="list-style-type: none"> ▶ slowly oxidise in air to produce formic acid ▶ attack carbon steel <p>Concentrated solutions containing formaldehyde are:</p> <ul style="list-style-type: none"> ▶ 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 <p>Flammable and/or toxic gases are generated by the combination of aldehydes with azo, diazo compounds, dithiocarbamates, nitrides, and strong reducing agents</p> <p>*The empirical equation may be used to determine the concentration of bis(chloromethyl)ether (BCME) formed by reaction with HCl: $\log(\text{BCME})\text{ppb} = -2.25 + 0.67 \cdot \log(\text{HCHO}) \text{ ppm} + 0.77 \cdot \log(\text{HCl})\text{ppm}$ 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.</p> <p>Glycidyl ethers:</p> <ul style="list-style-type: none"> ▶ 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 |
| pentaethylenhexamine | 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/m ³ |
| pentaethylenhexamine | 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

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| 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 |  |
| Eye and face protection | <ul style="list-style-type: none"> ▶ 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 |
| Hands/feet protection | <p>NOTE:</p> <ul style="list-style-type: none"> ▶ 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. <p>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.</p> <p>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.</p> <p>When handling liquid-grade epoxy resins wear chemically protective gloves, boots and aprons.</p> <p>The performance, based on breakthrough times, of:</p> <ul style="list-style-type: none"> · 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 <p>As defined in ASTM F-739-96</p> <ul style="list-style-type: none"> · Excellent breakthrough time > 480 min · Good breakthrough time > 20 min · Fair breakthrough time < 20 min · Poor glove material degradation <p>Gloves should be tested against each resin system prior to making a selection of the most suitable type.</p> |
| Body protection | See Other protection below |
| Other protection | <ul style="list-style-type: none"> ▶ 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 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 | 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

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| Reactivity | See section 7 |
| Chemical stability | <ul style="list-style-type: none"> ▶ 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

| | | | | | |
|---------------------------|---|-----------------|-------------------|---------------|---------------|
| 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 | <p>This material can cause inflammation of the skin on contact in some persons.</p> <p>The material may accentuate any pre-existing dermatitis condition</p> <p>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.</p> <p>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.</p> <p>Open cuts, abraded or irritated skin should not be exposed to this material</p> <p>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.</p> | | | | |
| Eye | If applied to the eyes, this material causes severe eye damage. | | | | |
| Chronic | <p>Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population.</p> <p>Toxic: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.</p> <p>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.</p> <p>Ample evidence exists that this material directly causes reduced fertility</p> <p>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.</p> <p>For some reactive diluents, prolonged or repeated skin contact may result in absorption of potentially harmful amounts or allergic skin reactions.</p> <p>Exposure to some reactive diluents (notably, neopentylglycol diglycidyl ether, CAS RN: 17557-23-2) has caused cancer in some animal testing.</p> <p>Glycidyl ethers can cause genetic damage and cancer.</p> <p>There has been some concern that this material can cause cancer or mutations but there is not enough data to make an assessment.</p> | | | | |
| Vapor Solve Primer Part A | <table border="1"> <tr> <td>TOXICITY</td> <td>IRRITATION</td> </tr> <tr> <td>Not Available</td> <td>Not Available</td> </tr> </table> | TOXICITY | IRRITATION | Not Available | Not Available |
| TOXICITY | IRRITATION | | | | |
| Not Available | Not Available | | | | |

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| | | |
|--|---|--|
| linseed oil/ BADGE/ formaldehyde/ diethylenetriamine polymer | TOXICITY | IRRITATION |
| | Not Available | Not Available |
| pentaethylenehexamine | TOXICITY | IRRITATION |
| | Oral (Rat) LD50: 1600 mg/kg ^[2] | Not Available |
| tetraethylenepentamine | TOXICITY | IRRITATION |
| | Dermal (rabbit) LD50: 660 mg/kg ^[2] | Eye (rabbit): 100 mg/24h moderate |
| | Oral (Rat) LD50: 3990 mg/kg ^[2] | Eye (rabbit): 5 mg moderate |
| | | Skin (rabbit): 495 mg SEVERE |
| | | Skin (rabbit): 5 mg/24h SEVERE |
| diethylenetriamine | TOXICITY | IRRITATION |
| | Dermal (rabbit) LD50: 1090 mg/kg ^[2] | Eye: adverse effect observed (irritating) ^[1] |
| | Oral (Rat) LD50: 1080 mg/kg ^[2] | Skin (rabbit): 10 mg/24h - SEVERE |
| | | Skin (rabbit):500 mg open moderate |
| | | 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

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| Vapor Solve Primer Part A | 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. |
| LINSEED OIL/ BADGE/ FORMALDEHYDE/ DIETHYLENTRIAMINE POLYMER | No significant acute toxicological data identified in literature search. 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. 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. |
| PENTAETHYLENEHEXAMINE | 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, and result in damage to the lung including reduced lung function. 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. Overexposure to most of these materials may cause adverse health effects. Many amine-based compounds can cause release of histamines, which, in turn, can trigger allergic and other physiological effects, including constriction of the bronchi or asthma and inflammation of the cavity of the nose. Whole-body symptoms include headache, nausea, faintness, anxiety, a decrease in blood pressure, rapid heartbeat, itching, reddening of the skin, urticaria (hives) and swelling of the face, which are usually transient. There are generally four routes of possible or potential exposure: inhalation, skin contact, eye contact, and swallowing. Inhalation: Inhaling vapours may result in moderate to severe irritation of the tissues of the nose and throat and can irritate the lungs. Higher concentrations of certain amines can produce severe respiratory irritation, characterized by discharge from the nose, coughing, difficulty in breathing and chest pain. Pentaethylenehexamine has not been evaluated in mammals with respect to its ability to cause genetic toxicity; limited testing with structurally related polyamines show that they do not produce tumours. Pentaethylenehexamine causes increased secretion of certain metals, including copper and cadmium, in rats. |
| tetraethylenepentamine | The material may produce moderate eye irritation leading to inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis. Triethylenetetramine is a severe irritant to skin and eyes and may induce skin sensitisation. Acute exposure to saturated vapour via inhalation was tolerated without impairment but exposure to aerosol may lead to reversible irritations of the mucous membranes in the airways. Studies done on experimental animals showed that it does not cause cancer or foetal developmental defects. Tetraethylenepentamine (TEPA) has a low acute toxicity when taken orally and a higher toxicity via the dermal route most likely due to the corrosive nature of TEPA to the skin against neutralization by stomach acid. TEPA may be corrosive to the skin and eyes. Long term dermal application may cause thickening of the epidermis and other skin changes. |
| DIETHYLENTRIAMINE | Allergic reactions involving the respiratory tract are usually due to interactions between IgE antibodies and allergens and occur rapidly. Allergic potential of the allergen and period of exposure often determine the severity of symptoms. Some people may be genetically more prone than others, and exposure to other irritants may aggravate symptoms. Attention should be paid to atopic diathesis, characterised by increased susceptibility to nasal inflammation, asthma and eczema. Exogenous allergic alveolitis is induced essentially by allergen specific immune-complexes of the IgG type; cell-mediated reactions (T lymphocytes) may be involved. Such allergy is of the delayed type with onset up to four hours following exposure. The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis. |
| Vapor Solve Primer Part A & LINSEED OIL/ BADGE/ FORMALDEHYDE/ DIETHYLENTRIAMINE POLYMER & PENTAETHYLENEHEXAMINE & tetraethylenepentamine & DIETHYLENTRIAMINE | 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. |

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|--|---|---------------------------------|---|
| Vapor Solve Primer Part A & LINSEED OIL/ BADGE/ FORMALDEHYDE/ DIETHYLENTRIAMINE POLYMER | <p>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.</p> <p>Cancer-causing potential: It has been concluded that bisphenol A diglycidyl ether cannot be classified with respect to its cancer-causing potential in humans.</p> <p>Genetic toxicity: Laboratory tests on genetic toxicity of BADGE have so far been negative.</p> <p>Immunotoxicity: Animal testing suggests regular injections of diluted BADGE may result in sensitization.</p> <p>Consumer exposure: Consumer exposure to BADGE is almost exclusively from migration of BADGE from can coatings into food.</p> | | |
| PENTAETHYLENEHEXAMINE & tetraethylenepentamine & DIETHYLENTRIAMINE | <p>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.</p> <p>Ethylenamines 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.</p> <p>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.</p> | | |
| tetraethylenepentamine & DIETHYLENTRIAMINE | <p>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.</p> | | |
| 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

| Vapor Solve Primer Part A | Endpoint | Test Duration (hr) | Species | Value | Source |
|---------------------------|---------------|--------------------|---------------|---------------|---------------|
| | Not Available | Not Available | Not Available | Not Available | Not Available |

| linseed oil/ BADGE/ formaldehyde/ diethylenetriamine polymer | Endpoint | Test Duration (hr) | Species | Value | Source |
|--|---------------|--------------------|---------------|---------------|---------------|
| | Not Available | Not Available | Not Available | Not Available | Not Available |

| pentaethylenehexamine | Endpoint | Test Duration (hr) | Species | Value | Source |
|-----------------------|---------------|--------------------|---------------|---------------|---------------|
| | Not Available | Not Available | Not Available | Not Available | Not Available |

| tetraethylenepentamine | Endpoint | Test Duration (hr) | Species | Value | Source |
|------------------------|-----------|--------------------|-------------------------------|----------|--------|
| | EC50 | 72h | Algae or other aquatic plants | 2.1mg/l | 1 |
| | EC50 | 48h | Crustacea | 24.1mg/l | 1 |
| | NOEC(ECx) | 72h | Algae or other aquatic plants | 0.5mg/l | 1 |

| diethylenetriamine | Endpoint | Test Duration (hr) | Species | Value | Source |
|--------------------|-----------|--------------------|-------------------------------|-----------|--------|
| | BCF | 1008h | Fish | <0.3-1.7 | 7 |
| | EC50 | 72h | Algae or other aquatic plants | 1164mg/l | 1 |
| | NOEC(ECx) | 504h | Crustacea | 5.6mg/l | 1 |
| | EC50 | 48h | Crustacea | 16mg/l | 1 |
| | ErC50 | 72h | Algae or other aquatic plants | 1164mg/l | 1 |
| | LC50 | 96h | Fish | 175mg/l | 2 |
| | EC50 | 96h | Algae or other aquatic plants | 345.6mg/l | 1 |

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

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

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

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.

Vapor Solve Primer Part A

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 |
|------------------------|-------------------------|------------------|
| pentaethylenhexamine | LOW | LOW |
| tetraethylenepentamine | LOW | LOW |
| diethylenetriamine | LOW | LOW |

Bioaccumulative potential

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

Mobility in soil

| Ingredient | Mobility |
|------------------------|-----------------------|
| pentaethylenhexamine | LOW (Log KOC = 3887) |
| tetraethylenepentamine | LOW (Log KOC = 1098) |
| diethylenetriamine | LOW (Log KOC = 87.53) |

SECTION 13 Disposal considerations

Waste treatment methods

| | |
|-------------------------------------|---|
| Product / Packaging disposal | <ul style="list-style-type: none"> ▶ Containers may still present a chemical hazard/ danger when empty. ▶ Return to supplier for reuse/ recycling if possible. <p>Otherwise:</p> <ul style="list-style-type: none"> ▶ 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. <p>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.</p> <ul style="list-style-type: none"> ▶ 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 | | | | |
| 14.2. UN proper shipping name | Resin Solution, flammable | | | | |
| 14.3. Transport hazard class(es) | <table border="1" style="width: 100%;"> <tr> <td>Class</td> <td>3</td> </tr> <tr> <td>Subsidiary Hazard</td> <td>Not Applicable</td> </tr> </table> | Class | 3 | Subsidiary Hazard | Not Applicable |
| Class | 3 | | | | |
| Subsidiary Hazard | Not Applicable | | | | |
| 14.4. Packing group | III | | | | |
| 14.5. Environmental hazard | Not Applicable | | | | |

Vapor Solve Primer Part A

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

Air transport (ICAO-IATA / DGR)

| | | |
|------------------------------------|---|----------------|
| 14.1. UN number | 1866 | |
| 14.2. UN proper shipping name | Resin solution flammable | |
| 14.3. Transport hazard class(es) | ICAO/IATA Class | 3 |
| | ICAO / IATA Subsidiary Hazard | Not Applicable |
| | ERG Code | 3L |
| 14.4. Packing group | III | |
| 14.5. Environmental hazard | Not Applicable | |
| 14.6. Special precautions for user | Special provisions | A3 |
| | Cargo Only Packing Instructions | 366 |
| | Cargo Only Maximum Qty / Pack | 220 L |
| | 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 |
| pentaethylenhexamine | 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 |
| pentaethylenhexamine | Not Available |
| tetraethylenepentamine | Not Available |
| diethylenetriamine | Not Available |

SECTION 15 Regulatory information

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

Continued...

Vapor Solve Primer Part A

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

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

pentaethylenhexamine 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 | 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

Vapor Solve Primer Part A

Additional State Regulatory Information

Not Applicable

National Inventory Status

| National Inventory | Status |
|--|---|
| Australia - AIC / 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 |
| Russia - FBEPH | No (linseed oil/ BADGE/ formaldehyde/ diethylenetriamine polymer) |
| 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 | 11/15/2019 |

CONTACT POINT

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

SDS Version Summary

| Version | Date of Update | Sections Updated |
|---------|----------------|---|
| 0.2 | 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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Vapor Solve Primer Part A
