1227 North Miller Park Court • Visalia, CA 93291 • 559-651-7711 • Fax: 559-651-0123

GECET® Expandable Engineering Resins

CHEMICAL PROPERTIES

GECET foamed products are resistant to virtually all aqueous media including dilute acids and alkalis. In addition, they are resistant to water-miscible alcohols such as methanol, ethanol, and i-propanol, and also to silicone oils.

They have limited resistance to paraffin oil, vegetable oils, diesel fuel, and Vaseline. These substances may attack the surface of foamed materials after long-term contact and may cause deformation through shrinkage.

GECET foamed materials are not resistant to organic solvents such as hydrocarbons, chlorinated hydrocarbons, ketones and esters.

Paints containing thinners and solutions of synthetic adhesives naturally fall into the same category, and this should be taken into account in any painting or bonding operation.

Anhydrous acids such as glacial acetic acid or fuming sulphuric acid destroy the foamed material.

Prolonged exposure to UV light causes yellowing and embrittlement of the foamed material, which should therefore be protected from direct outdoor exposure.

The following table gives a survey of the resistance of GECET to the most common chemical substances.

Chemical Resistance of Fagerdala Brand GECET resins.

Resistant	\oplus
Limited resistance	\ominus
Non-resistant	_

Test Medium	20°C
Acetic acid 50%	\oplus
Acetic acid 100% (glacial)	_
Acetic acid ethyl ester	_
Acetone	_
Acetonyl alcohol	\oplus
Allyl alcohol	\oplus
Aluminum acetate solution	\oplus
Ammonia (aqueous)	\oplus
Amyl acetate	-
Amyl alcohol	\oplus
Benzene	_
Benzyl alcohol	-
Bleach liquor (12% chlorine)
Borax solution	\oplus
Boric acid solution	\oplus
Bromine, liquid	-
Butane	_
Butyl acetate	-
n-Butyl alcohol	\oplus
Calcium hypochlorite solution	on \oplus
Carbon dioxide	\oplus
Carbon disulphide	-
Carbon tetrachloride	_
Caustic soda solution	⊕
Chloreform	Θ
Chloroform	_
Clove oil Cod liver oil	
Common salt	0
Cottonseed oil	
	V

Precision Molded Foam Since 1960

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Cyclohexanol — Isopropanol ⊕ Cyclohexanone — Lactic acid 80% ⊕ Decahydronaphthalene — Lanolin ⊕ Dichlorobenzene — Lime water ⊕ Diesel oil ⊖ Linseed oil ⊖ Diethyl ether — Mercury ⊕ Diethyl ketone — Methanol ⊕ Diethylene glycol ⊕ Methyl chloride — Dimethylformamide — Methyl ethyl ketone — 1,4-Dioxane — Methyl isobutyl ketone — 1,4-Dioxane — Methyl isobutyl ketone — Ethanol 95% ⊕ Methyl isopropyl ketone — Ether (diethyl ether) — Methyl propyl ketone — Ethyl acetate — Methyl propyl ketone — Ethyl benzene — Milk ⊕ Ethylene chloride — Milk ⊕ Ethylene glycol ⊕ Naphtha ⊕	Test Medium	20°C	Test Medium	20°C
Cyclohexanone - Lactic acid 80% ⊕ Decahydronaphthalene - Lanolin ⊕ Dichlorobenzene - Linseed oil ⊕ Diesel oil ⊕ Linseed oil ⊕ Diethyl ether - Methyl chloride ⊕ Diethyl ketone - Methyl chloride - Diethylformamide - Methyl sobutyl ketone - Dimethylformamide - Methyl sisobutyl ketone - Dwarf pine oil - Methyl isopropyl ketone - Ethanol 95% ⊕ Methyl sropropyl ketone - Ethyl propyl ketone - Methyl stopropyl ketone - Ethyl acetate - Methyl stopropyl ketone - Ethyl acetate - Milk ⊕ Ethyl benzene - Milk ⊕ Ethyl benzene - Milk ⊕ Ethylene glycol ⊕ Naphtha ⊕ Ethylene glycol ⊕ Naphtha <td< td=""><td>Cyclohexane</td><td>_</td><td>Isopropanol</td><td>\oplus</td></td<>	Cyclohexane	_	Isopropanol	\oplus
Decahydronaphthalene - Lanolin ⊖ Dichlorobenzene - Limseed oil ⊖ Diesel oil ⊖ Linseed oil ⊖ Diethyl ether - Mercury ⊕ Diethyl ketone - Methanol ⊕ Diethylketone - Methyl chloride - Dimethylformamide - Methyl telvel ketone - Jincard pine oil - Methyl isopropyl ketone - Ethanol 95% ⊕ Methyl propyl ketone - Ether (diethyl ether) - Methyl propyl ketone - Ethyl acetate - Methyl propyl ketone - Ethyl acetate - Milk ⊕ Ethyl acetate - Milk ⊕ Ethyl acetate - Milk ⊕ Ethylene chloride - Mineral oil ⊕ Ethylene glycol ⊕ Naphtha ⊕ Fertilizer salts ⊕ Nitric acid conc. -	Cyclohexanol	\oplus	Kerosene	\oplus
Dichlorobenzene Diesel oil Diethyl ether Diethyl ketone Diethyl ketone Diethyl ketone Diethylformamide Diethylformamide Diethylformamide Diethyli pine oil Ethanol 95% Diethyl acetate Ethyl acetate Ethyl benzene Ethylene chloride Ethylene chloride Diethylene diloromethane Difluoromonochloromethane Difluoromonochloromethane Monofluorotrichloroethane Trifluorotrichloroethane Trifluorotrichloroethane Tetrafluorodichloroethane Tetrafluorodichloroethane Formic acid 85% Diethyl acetate Diethylene	Cyclohexanone	_	Lactic acid 80%	\oplus
Diesel oil Diethyl ether Diethyl ketone Diethylene glycol Diethylene glycol Diethylene glycol Diethylene glycol Dimethylformamide Diffuorodichormathane Diffuorodichoromethane Diffuoromethane Diffuorodichoromethane Diffuorodichoromethane Diffuoromethane Diffuorodichoromethane Diffuorodich	Decahydronaphthalene	_	Lanolin	Θ
Diethyl ether	Dichlorobenzene	_	Lime water	\oplus
Diethyl ketone Diethylene glycol Dimethylformamide Diethylene glycol Dimethylformamide Diethylene glycol Dimethylformamide Dwarf pine oil Dwarf pine oil Dethylene oll Ethanol 95% Dwarf pine oil Dwarf oil D	Diesel oil	Θ	Linseed oil	Θ
Diethylene glycol	Diethyl ether	_	Mercury	\oplus
Dimethylformamide	Diethyl ketone	-	Methanol	\oplus
1,4-Dioxane	Diethylene glycol	\oplus	Methyl chloride	_
Dwarf pine oil	Dimethylformamide	_	Methyl ethyl ketone	_
Ethanol 95%	1,4-Dioxane	_	Methyl isobutyl ketone	_
Ether (diethyl ether)	Dwarf pine oil	_	Methyl isopropyl ketone	_
Ether (diethyl ether)	Ethanol 95%	\oplus	Methyl propyl ketone	_
Ethylene chloride — Monochlorobenzene — Ethylene glycol — Naphtha — Nitric acid conc. — Filuorochlorinated hydrocarbons*: — Nitric acid 30% — Difluoromethane — Olive oil — Olive oil — Monofluorotrichloromethane — Olive oil — Monofluorotrichloromethane — Paraffin oil — Monofluorotrichloromethane — Paraffin oil — Monofluorotrichloromethane — Peanut oil — Trifluorotrichloroethane — Pentane — Perchloroethylene — Formaldhyde 30% — (Tetrachloroethylene) — Formic acid 85% — Petrol — Petroleum — Gasoline — Petroleum ether — Petroleum ether — Heptane — Phosphoric acid 87% — Potassium hydroxide conc. — Heptyl alcohol — Propyl alcohol — Propyl alcohol — Hydrochloric acid 40% — Propylene glycol — Propylene chloride — Hydrogen peroxide 3% — Propylene glycol	Ether (diethyl ether)	_		_
Ethylene chloride — Monochlorobenzene — Ethylene glycol — Naphtha — Nitric acid conc. — Filuorochlorinated hydrocarbons*: — Nitric acid 30% — Difluoromethane — Olive oil — Olive oil — Monofluorotrichloromethane — Olive oil — Monofluorotrichloromethane — Paraffin oil — Monofluorotrichloromethane — Paraffin oil — Monofluorotrichloromethane — Peanut oil — Trifluorotrichloroethane — Pentane — Perchloroethylene — Formaldhyde 30% — (Tetrachloroethylene) — Formic acid 85% — Petrol — Petroleum — Gasoline — Petroleum ether — Petroleum ether — Heptane — Phosphoric acid 87% — Potassium hydroxide conc. — Heptyl alcohol — Propyl alcohol — Propyl alcohol — Hydrochloric acid 40% — Propylene glycol — Propylene chloride — Hydrogen peroxide 3% — Propylene glycol		_	Milk	\oplus
Ethylene glycol		_	Mineral oil	\oplus
Ethylene glycol	Ethylene chloride	_	Monochlorobenzene	_
Fertilizer salts		\oplus	Naphtha	\oplus
Difluorodichloromethane Difluoromonochloromethane Difluoromonochloromethane Monofluorotrichloromethane Monofluorodichloromethane Trifluorotrichloromethane Tetrafluorodichloroethane Tetrafluorodichloroethane Tetrafluorodichloroethane Formaldhyde 30% □ Formic acid 85% □ Formic acid 85% □ Fetrol Glycerin □ Gasoline Heptane Heptane Heptyl alcohol Hexchlorocyclohexane Hexane Hydrochloric acid 15% Hydrochloric acid 40% Hydrogen peroxide 3% □ Clive oil □ Paraffin oil □ Peanut oil □ Peanut oil □ Peanut oil □ Petrane Petroleom Petroleom Petroleom Petroleum Petroleum Petroleum Petroleum ether Phosphoric acid 87% □ Potassium hydroxide conc. (Caustic potash solution) □ Hydrochloric acid 15% □ Hydrochloric acid 40% □ Propyl alcohol □ Propyl alcohol □ Propyl alcohol □ Propylene glycol □ Propylene glycol □ Propylene glycol		\oplus		_
Difluoromonochloromethane Monofluorotrichloromethane Monofluorodichloromethane Trifluorotrichloroethane Tetrafluorodichloroethane Tetrafluorodichloroethane Tetrafluorodichloroethane Tetrafluorodichloroethane Formaldhyde 30% □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □	Fluorochlorinated hydrocarbons*:		Nitric acid 30%	⊕
Monofluorotrichloromethane - Paraffin oil ⊕ Monofluorodichloromethane - Peanut oil ⊕ Trifluorotrichloroethane - Pentane - Tetrafluorodichloroethane - Perchloroethylene - Formaldhyde 30% ⊕ (Tetrachloroethylene) - Formic acid 85% ⊕ Petrol - Glycerin ⊕ Petroleum - Gasoline - Petroleum ether - Heptane - Phosphoric acid 87% ⊕ Heptyl alcohol ⊕ Potassium hydroxide conc. Hexane - (Caustic potash solution) ⊕ Hydrochloric acid 15% ⊕ i-Propyl alcohol ⊕ Hydrochloric acid 40% ⊕ Propylene chloride - Hydrogen peroxide 3% ⊕ Propylene glycol ⊕	Difluorodichloromethane	_	Olive oil	Θ
Monofluorodichloromethane Trifluorotrichloroethane Tetrafluorodichloroethane Formaldhyde 30% ⊕ (Tetrachloroethylene) Formic acid 85% ⊕ Petrol Glycerin Gasoline Heptane Heptyl alcohol Hexchlorocyclohexane Hydrochloric acid 15% Hydrochloric acid 40% Hydrogen peroxide 3% ● Peanut oil ⊕ Pentane Pentane Perchloroethylene Petrol (Tetrachloroethylene) Petrol Petrol Petrol Petroleum Petroleum ether Phosphoric acid 87% ⊕ Potassium hydroxide conc. (Caustic potash solution) ⊕ H-Propyl alcohol ⊕ H-Propyl alcohol ⊕ Propyl alcohol ⊕ Propylene chloride Propylene glycol ⊕ Propylene glycol ⊕ Propylene glycol	Difluoromonochloromethane	_	Oleic acid	\oplus
Trifluorotrichloroethane	Monofluorotrichloromethane	_	Paraffin oil	Θ
Tetrafluorodichloroethane Formaldhyde 30% ⊕ (Tetrachloroethylene) Formic acid 85% ⊕ Petrol Glycerin Gasoline Heptane Heptyl alcohol Hexchlorocyclohexane Hydrochloric acid 15% Hydrofluoric acid 40% Hydrogen peroxide 3% ⊕ Petrol Petroleum Petroleum Hexchlorocyclohexane - Phosphoric acid 87% Potassium hydroxide conc. (Caustic potash solution) ⊕ Propyl alcohol ⊕ I-Propyl alcohol ⊕ Propylene chloride - Propylene glycol ⊕ Propylene glycol ⊕ Propylene glycol	Monofluorodichloromethane	_	Peanut oil	\oplus
Formaldhyde 30%	Trifluorotrichloroethane	_	Pentane	_
Formic acid 85% Glycerin Gasoline Heptane Heptyl alcohol Hexchlorocyclohexane Hexane Hydrochloric acid 15% Hydrochloric acid 40% Hydrogen peroxide 3% Petrol Petroleum Petroleum Potassium ether Phosphoric acid 87% Potassium hydroxide conc. (Caustic potash solution) Hexane Propane liquid i-Propyl alcohol Propylene chloride Propylene glycol	Tetrafluorodichloroethane	_	Perchloroethylene	
Formic acid 85%	Formaldhyde 30%	\oplus	(Tetrachloroethylene)	_
Gasoline — Petroleum ether — Heptane — Phosphoric acid 87% — Heptyl alcohol — Potassium hydroxide conc. Hexchlorocyclohexane — (Caustic potash solution) — Hexane — Propane liquid — Hydrochloric acid 15% — i-Propyl alcohol — Hydrochloric acid conc. — n-Propyl alcohol — Hydrofluoric acid 40% — Propylene chloride — Hydrogen peroxide 3% — Propylene glycol — Propylene glycol		\oplus	Petrol	_
Gasoline — Petroleum ether — Heptane — Phosphoric acid 87% ⊕ Potassium hydroxide conc. Hexchlorocyclohexane — (Caustic potash solution) ⊕ Hexane — Propane liquid — Hydrochloric acid 15% ⊕ i-Propyl alcohol ⊕ Hydrochloric acid conc. ⊕ n-Propyl alcohol ⊕ Hydrofluoric acid 40% ⊕ Propylene chloride — Hydrogen peroxide 3% ⊕ Propylene glycol ⊕	Glycerin	\oplus	Petroleum	_
Heptyl alcohol Hexchlorocyclohexane Hexane Hydrochloric acid 15% Hydrochloric acid conc. Hydrofluoric acid 40% Hydrogen peroxide 3% ⊕ Potassium hydroxide conc. (Caustic potash solution) ⊕ Propane liquid - i-Propyl alcohol ⊕ Propyl alcohol ⊕ Propylene chloride - Propylene glycol ⊕ Propylene glycol ⊕		_	Petroleum ether	_
Heptyl alcohol Hexchlorocyclohexane Hexane Hydrochloric acid 15% Hydrochloric acid conc. Hydrofluoric acid 40% Hydrogen peroxide 3% ⊕ Potassium hydroxide conc. (Caustic potash solution) ⊕ Propane liquid - i-Propyl alcohol ⊕ Propyl alcohol ⊕ Propylene chloride - Propylene glycol ⊕ Propylene glycol ⊕	Heptane	_	Phosphoric acid 87%	\oplus
Hexchlorocyclohexane Hexane Hydrochloric acid 15% Hydrochloric acid conc. Hydrofluoric acid 40% Hydrogen peroxide 3% — (Caustic potash solution) Propane liquid i-Propyl alcohol n-Propyl alcohol Propylene chloride Propylene glycol ⊕	•	⊕	Potassium hydroxide conc.	
Hexane_Propane liquid_Hydrochloric acid 15%⊕i-Propyl alcohol⊕Hydrochloric acid conc.⊕n-Propyl alcohol⊕Hydrofluoric acid 40%⊕Propylene chloride−Hydrogen peroxide 3%⊕Propylene glycol⊕		_	(Caustic potash solution)	\oplus
Hydrochloric acid 15%⊕i-Propyl alcohol⊕Hydrochloric acid conc.⊕n-Propyl alcohol⊕Hydrofluoric acid 40%⊕Propylene chloride−Hydrogen peroxide 3%⊕Propylene glycol⊕		_	Propane liquid	_
Hydrochloric acid conc.⊕n-Propyl alcohol⊕Hydrofluoric acid 40%⊕Propylene chloride−Hydrogen peroxide 3%⊕Propylene glycol⊕		\oplus	i-Propyl alcohol	\oplus
Hydrofluoric acid 40% ⊕ Propylene chloride − Hydrogen peroxide 3% ⊕ Propylene glycol ⊕			n-Propyl alcohol	\oplus
Hydrogen peroxide 3% ⊕ Propylene glycol ⊕			Propylene chloride	_
			Propylene glycol	\oplus
		\oplus		

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Test Medium	20°C	Test Medium	20°C
Pyridine	-	Sodium sulphite solution	\oplus
Rose oil	_	Sugar solution 30%	\oplus
Seawater	\oplus	Sulphuric acid 50%	\oplus
Silicone oil	\oplus	Sulphuric acid conc.	\oplus
Soda solution	\oplus	Table vinegar	\oplus
Sodium carbonate	\oplus	Tartaric acid solution	\oplus
Sodium carbonate solution	\oplus	Tetrachloroethane	_
Sodium chloride solution	\oplus	Tetrahydrofuran	_
Sodium chromate solution	\oplus	Tetrahydronaphthalene	_
Sodium hydrosulfate	\oplus	Toluene	_
Sodium hypochlorate solution		Trichlorobenzene	_
(12.5% chlorine)	\oplus		
Sodium phosphate solution (diabasic	(a) (b)		
Sodium phosphate solution (tribasic)	\oplus		

^{*}Tested at atmospheric pressure in liquid or saturated vapor form according to boiling point.

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