



# HandiFoam HVLP Low Density ICP Building Solutions Group

Version No: 2.3.4.8  
Safety Data Sheet according to OSHA HazCom Standard (2012) requirements

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S.GHS.USA.EN

## SECTION 1 Identification

### Product Identifier

Product name	HandiFoam HVLP Low Density
Synonyms	Not Available
Other means of identification	Not Available

### Recommended use of the chemical and restrictions on use

Relevant identified uses	Polyurethane Foam System- Side B
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### Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Registered company name	ICP Building Solutions Group
Address	2775 Barber Road Norton Ohio 44203 United States
Telephone	+1 330 753 4585 +1 800 321 5585
Fax	Not Available
Website	<a href="http://www.handifoam.com/">http://www.handifoam.com/</a>
Email	sds@icpgroup.com

### Emergency phone number

Association / Organisation	CHEMTEL
Emergency telephone numbers	+1 800 255 3924
Other emergency telephone numbers	+1 813 248 0585

## SECTION 2 Hazard(s) identification

### Classification of the substance or mixture



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

Classification	Serious Eye Damage/Eye Irritation Category 1, Skin Corrosion/Irritation Category 2
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### Label elements

Hazard pictogram(s)	
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Signal word	<b>Danger</b>
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### Hazard statement(s)

H318	Causes serious eye damage.
H315	Causes skin irritation.

### Hazard(s) not otherwise classified

Not Applicable

## HandiFoam HVLP Low Density

## Precautionary statement(s) Prevention

<b>P280</b>	Wear protective gloves, protective clothing, eye protection and face protection.
<b>P264</b>	Wash all exposed external body areas thoroughly after handling.

## Precautionary statement(s) Response

<b>P305+P351+P338</b>	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
<b>P310</b>	Immediately call a POISON CENTER or doctor/physician.
<b>P302+P352</b>	IF ON SKIN: Wash with plenty of water/soap
<b>P332+P313</b>	If skin irritation occurs: Get medical advice/attention
<b>P362</b>	Take off contaminated clothing and wash before reuse.

## Precautionary statement(s) Storage

Protect from sunlight. Store in a well-ventilated place.

Precautionary statement(s) Disposal: Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

## SECTION 3 Composition / information on ingredients

## Substances

See section below for composition of Mixtures

## Mixtures

CAS No	%[weight]	Name
9082-00-2	15-20	<u>glycerol_ethoxylated_propoxylated</u>
9049-71-2	5-10	<u>sucrose_propoxylated</u>
25791-96-2	1-5	<u>polypropylene glycol glyceryl ether</u>
127087-87-0	10-20	<u>4-nonylphenol_branched_ethoxylated</u>
13674-84-5*	10-20	<u>tris(2-chloroisopropyl)phosphate</u>
1704-62-7	<3	<u>N,N-dimethyldiglycolamine</u>
2212-32-0	<2	<u>2-(((2-dimethylamino)ethyl)methylamino)ethanol</u>
83016-70-0	<2	<u>N,N,N'-trimethyl-N'-(2-hydroxyethyl)bis(aminoethyl) ether</u>

## SECTION 4 First-aid measures

## Description of first aid measures

<b>Eye Contact</b>	<p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> <li>▶ Immediately hold eyelids apart and flush the eye continuously with running water.</li> <li>▶ 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.</li> <li>▶ Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.</li> <li>▶ Transport to hospital or doctor without delay.</li> <li>▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</li> </ul>
<b>Skin Contact</b>	<p>If skin or hair contact occurs:</p> <ul style="list-style-type: none"> <li>▶ Flush skin and hair with running water (and soap if available).</li> <li>▶ Seek medical attention in event of irritation.</li> </ul>
<b>Inhalation</b>	<ul style="list-style-type: none"> <li>▶ If fumes, aerosols or combustion products are inhaled remove from contaminated area.</li> <li>▶ Other measures are usually unnecessary.</li> </ul>
<b>Ingestion</b>	<ul style="list-style-type: none"> <li>▶ <b>IF SWALLOWED, REFER FOR MEDICAL ATTENTION, WHERE POSSIBLE, WITHOUT DELAY.</b></li> <li>▶ For advice, contact a Poisons Information Centre or a doctor.</li> <li>▶ Urgent hospital treatment is likely to be needed.</li> <li>▶ In the mean time, qualified first-aid personnel should treat the patient following observation and employing supportive measures as indicated by the patient's condition.</li> <li>▶ If the services of a medical officer or medical doctor are readily available, the patient should be placed in his/her care and a copy of the SDS should be provided. Further action will be the responsibility of the medical specialist.</li> <li>▶ If medical attention is not available on the worksite or surroundings send the patient to a hospital together with a copy of the SDS.</li> </ul> <p><b>Where medical attention is not immediately available or where the patient is more than 15 minutes from a hospital or unless instructed otherwise:</b></p> <ul style="list-style-type: none"> <li>▶ <b>INDUCE</b> vomiting with fingers down the back of the throat, <b>ONLY IF CONSCIOUS</b>. Lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.</li> </ul> <p><b>NOTE:</b> Wear a protective glove when inducing vomiting by mechanical means.</p>

## Most important symptoms and effects, both acute and delayed

See Section 11

## Indication of any immediate medical attention and special treatment needed

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

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For poisons (where specific treatment regime is absent):

### BASIC TREATMENT

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

### ADVANCED TREATMENT

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

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

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

Treat symptomatically.

## SECTION 5 Fire-fighting measures

### Extinguishing media

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

### Special hazards arising from the substrate or mixture

<b>Fire Incompatibility</b>	▶ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result
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### Special protective equipment and precautions for fire-fighters

<b>Fire Fighting</b>	<ul style="list-style-type: none"> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>▶ Wear full body protective clothing with breathing apparatus.</li> <li>▶ Prevent, by any means available, spillage from entering drains or water course.</li> </ul>
<b>Fire/Explosion Hazard</b>	<ul style="list-style-type: none"> <li>▶ Combustible.</li> <li>▶ Slight fire hazard when exposed to heat or flame.</li> <li>▶ Heating may cause expansion or decomposition leading to violent rupture of containers.</li> </ul> Combustion products include: carbon dioxide (CO <sub>2</sub> ) aldehydes other pyrolysis products typical of burning organic material. May emit poisonous fumes. 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

<b>Minor Spills</b>	<ul style="list-style-type: none"> <li>▶ Remove all ignition sources.</li> <li>▶ Clean up all spills immediately.</li> <li>▶ Avoid breathing vapours and contact with skin and eyes.</li> </ul>
<b>Major Spills</b>	Moderate hazard. <ul style="list-style-type: none"> <li>▶ Clear area of personnel and move upwind.</li> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> </ul>

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

## SECTION 7 Handling and storage

### Precautions for safe handling

<b>Safe handling</b>	<ul style="list-style-type: none"> <li>▶ Avoid all personal contact, including inhalation.</li> <li>▶ Wear protective clothing when risk of exposure occurs.</li> <li>▶ Use in a well-ventilated area.</li> </ul>
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## 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
glycerol, ethoxylated, propoxylated	30 mg/m3	330 mg/m3	2,000 mg/m3
4-nonylphenol, branched, ethoxylated	30 mg/m3	330 mg/m3	2,000 mg/m3
4-nonylphenol, branched, ethoxylated	30 mg/m3	330 mg/m3	2,000 mg/m3

Ingredient	Original IDLH	Revised IDLH
glycerol, ethoxylated, propoxylated	Not Available	Not Available
sucrose, propoxylated	Not Available	Not Available
polypropylene glycol glyceryl ether	Not Available	Not Available
4-nonylphenol, branched, ethoxylated	Not Available	Not Available
tris(2-chloroisopropyl)phosphate	Not Available	Not Available
N,N-dimethyldiglycolamine	Not Available	Not Available
2-(((2-dimethylamino)ethyl)methylamino)ethanol	Not Available	Not Available
N,N,N'-trimethyl-N'-(2-hydroxyethyl)bis(aminoethyl) ether	Not Available	Not Available


## Occupational Exposure Banding

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
4-nonylphenol, branched, ethoxylated	E	≤ 0.1 ppm
tris(2-chloroisopropyl)phosphate	E	≤ 0.1 ppm
N,N-dimethyldiglycolamine	E	≤ 0.1 ppm
2-(((2-dimethylamino)ethyl)methylamino)ethanol	E	≤ 0.1 ppm
N,N,N'-trimethyl-N'-(2-hydroxyethyl)bis(aminoethyl) 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

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.
Personal protection	
Eye and face protection	<ul style="list-style-type: none"> <li>▶ Safety glasses with side shields.</li> <li>▶ Chemical goggles.</li> <li>▶ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants.</li> </ul>
Skin protection	See Hand protection below

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<b>Hands/feet protection</b>	<ul style="list-style-type: none"> <li>▶ Wear chemical protective gloves, e.g. PVC.</li> <li>▶ Wear safety footwear or safety gumboots, e.g. Rubber</li> </ul> <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>
<b>Body protection</b>	See Other protection below
<b>Other protection</b>	<ul style="list-style-type: none"> <li>▶ Overalls.</li> <li>▶ P.V.C apron.</li> <li>▶ Barrier cream.</li> </ul>

**Respiratory protection**

Type A 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**

<b>Appearance</b>	Not Available		
<b>Physical state</b>	Liquid	<b>Relative density (Water = 1)</b>	Not Available
<b>Odour</b>	Not Available	<b>Partition coefficient n-octanol / water</b>	Not Available
<b>Odour threshold</b>	Not Available	<b>Auto-ignition temperature (°C)</b>	Not Available
<b>pH (as supplied)</b>	7.0-9.0	<b>Decomposition temperature</b>	Not Available
<b>Melting point / freezing point (°C)</b>	Not Available	<b>Viscosity (cSt)</b>	Not Available
<b>Initial boiling point and boiling range (°C)</b>	Not Available	<b>Molecular weight (g/mol)</b>	Not Available
<b>Flash point (°C)</b>	Not Available	<b>Taste</b>	Not Available
<b>Evaporation rate</b>	Not Available	<b>Explosive properties</b>	Not Available
<b>Flammability</b>	Not Available	<b>Oxidising properties</b>	Not Available
<b>Upper Explosive Limit (%)</b>	Not Available	<b>Surface Tension (dyn/cm or mN/m)</b>	Not Available
<b>Lower Explosive Limit (%)</b>	Not Available	<b>Volatile Component (%vol)</b>	Not Available
<b>Vapour pressure (kPa)</b>	Not Available	<b>Gas group</b>	Not Available
<b>Solubility in water</b>	Immiscible	<b>pH as a solution (%)</b>	Not Available
<b>Vapour density (Air = 1)</b>	Not Available	<b>VOC g/L</b>	Not Available

**SECTION 10 Stability and reactivity**

<b>Reactivity</b>	See section 7
<b>Chemical stability</b>	<ul style="list-style-type: none"> <li>▶ Unstable in the presence of incompatible materials.</li> <li>▶ Product is considered stable.</li> <li>▶ Hazardous polymerisation will not occur.</li> </ul>
<b>Possibility of hazardous reactions</b>	See section 7
<b>Conditions to avoid</b>	See section 7
<b>Incompatible materials</b>	See section 7
<b>Hazardous decomposition products</b>	See section 5

**SECTION 11 Toxicological information****Information on toxicological effects**

<b>Inhaled</b>	The material is not thought to produce either adverse health effects or irritation of the respiratory tract following inhalation (as classified by EC Directives using animal models). Nevertheless, adverse systemic effects have been produced following exposure of animals by at least one other route and good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.
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	Inhalation of amine vapours may cause irritation of the mucous membrane of the nose and throat, and lung irritation with respiratory distress and cough. Swelling and inflammation of the respiratory tract is seen in serious cases; with headache, nausea, faintness and anxiety.
<b>Ingestion</b>	Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual. Nonionic surfactants may produce localised irritation of the oral or gastrointestinal lining and induce vomiting and mild diarrhoea. Amines without benzene rings when swallowed are absorbed throughout the gut. Corrosive action may cause damage throughout the gastrointestinal tract.
<b>Skin Contact</b>	The liquid may be able to be mixed with fats or oils and may degrease the skin, producing a skin reaction described as non-allergic contact dermatitis. The material is unlikely to produce an irritant dermatitis as described in EC Directives. Non-ionic surfactants cause less irritation than other surfactants as they have less ability to denature protein in the skin. Volatile amine vapours produce irritation and inflammation of the skin. Direct contact can cause burns. Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.
<b>Eye</b>	If applied to the eyes, this material causes severe eye damage. Vapours of volatile amines irritate the eyes, causing excessive secretion of tears, inflammation of the conjunctiva and slight swelling of the cornea, resulting in 'halos' around lights. This effect is temporary, lasting only for a few hours. However this condition can reduce the efficiency of undertaking skilled tasks, such as driving a car. Non-ionic surfactants can cause numbing of the cornea, which masks discomfort normally caused by other agents and leads to corneal injury. Irritation varies depending on the duration of contact, the nature and concentration of the surfactant.
<b>Chronic</b>	Long-term exposure to the product is not thought to produce chronic effects adverse to the health (as classified by EC Directives using animal models); nevertheless exposure by all routes should be minimised as a matter of course. Exposure to alkyl phenolics is associated with reduced sperm count and fertility in males. Prolonged or repeated skin contact may cause degreasing, followed by drying, cracking and skin inflammation.

<b>HandiFoam HVLP Low Density</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Not Available	Not Available
<b>glycerol, ethoxylated, propoxylated</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Dermal (rabbit) LD50: >5000 mg/kg <sup>[2]</sup>	Not Available
	Oral(Rat) LD50; >10000 mg/kg <sup>[2]</sup>	
<b>sucrose, propoxylated</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Dermal (rabbit) LD50: >5000 mg/kg <sup>[1]</sup>	Eye: no adverse effect observed (not irritating) <sup>[1]</sup>
	Oral(Rat) LD50; >2000 mg/kg <sup>[1]</sup>	Skin: no adverse effect observed (not irritating) <sup>[1]</sup>
<b>polypropylene glycol glyceryl ether</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	dermal (rat) LD50: >2000 mg/kg <sup>[1]</sup>	Eye: no adverse effect observed (not irritating) <sup>[1]</sup>
	Inhalation(Rat) LC50; >50 mg/L4h <sup>[2]</sup>	Eye: non-irritant *
	Oral(Rat) LD50; >2000 mg/kg <sup>[1]</sup>	Skin (rabbit): 500 mg (open)-mild
		Skin: no adverse effect observed (not irritating) <sup>[1]</sup>
<b>4-nonylphenol, branched, ethoxylated</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Oral(Mouse) LD50; 150 mg/kg <sup>[2]</sup>	Eye (rabbit): SEVERE
		Eye: adverse effect observed (irritating) <sup>[1]</sup>
		Eye: no adverse effect observed (not irritating) <sup>[1]</sup>
		Skin (rabbit): Mild
	Skin: no adverse effect observed (not irritating) <sup>[1]</sup>	
<b>tris(2-chloroisopropyl)phosphate</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Dermal (rabbit) LD50: >5000 mg/kg <sup>[2]</sup>	Eye (rabbit): non-irritating*
	Inhalation(Rat) LC50; >4.6 mg/l/4H <sup>[2]</sup>	Skin (rabbit): mild (24 h):
	Intravenous (Mouse) LD50: 56 mg/kg <sup>[2]</sup>	
	Oral(Rat) LD50; 1500 mg/kg <sup>[2]</sup>	
<b>N,N-dimethyldiglycolamine</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Dermal (rabbit) LD50: ~1260 mg/kg <sup>[1]</sup>	Eye : Severe
	Inhalation(Rat) LC50; >72 ppm4h <sup>[1]</sup>	Eye: adverse effect observed (irritating) <sup>[1]</sup>
	Oral(Rat) LD50; 2558 mg/kg <sup>[1]</sup>	Eye: corrosive

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		Skin : Severe
		Skin: adverse effect observed (corrosive) <sup>[1]</sup>
		Skin: corrosive
2-[[[(2-dimethylamino)ethyl)methylamino]ethanol	<b>TOXICITY</b>	<b>IRRITATION</b>
	Oral(Rat) LD50; 2570 mg/kg <sup>[1]</sup>	Eye: adverse effect observed (irreversible damage) <sup>[1]</sup> Skin: adverse effect observed (corrosive) <sup>[1]</sup>
N,N,N'-trimethyl-N'-(2-hydroxyethyl)bis(aminoethyl) ether	<b>TOXICITY</b>	<b>IRRITATION</b>
	Dermal (rabbit) LD50: 5700 mg/kg <sup>[1]</sup> Oral(Rat) LD50; 1007 mg/kg <sup>[1]</sup>	Not Available

**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

<b>POLYPROPYLENE GLYCOL GLYCERYL ETHER</b>	Data for Nix Polyol L-56 Data for Nix Polyol LG-168 * BASF Multanol 9175 SDS
<b>4-NONYLPHENOL, BRANCHED, ETHOXYLATED</b>	<p>For nonylphenol and its compounds: Alkylphenols like nonylphenol and bisphenol A have estrogenic effects in the body. They are known as xenoestrogens. Estrogenic substances and other endocrine disruptors are compounds that have hormone-like effects in both wildlife and humans. Humans have regular contact with alcohol ethoxylates through a variety of industrial and consumer products such as soaps, detergents and other cleaning products. Exposure to these chemicals can occur through swallowing, inhalation, or contact with the skin or eyes. Studies of acute toxicity show that relatively high volumes would have to occur to produce any toxic response. Both laboratory and animal testing has shown that there is no evidence for alcohol ethoxylates (AEs) causing genetic damage, mutations or cancer. No adverse reproductive or developmental effects were observed. Tri-ethylene glycol ethers undergo enzymatic oxidation to toxic alkoxy acids. They may irritate the skin and the eyes. At high oral doses, they may cause depressed reflexes, flaccid muscle tone, breathing difficulty and coma. For nonylphenol: Animal testing suggests that repeated exposure to nonylphenol may cause liver changes and kidney dysfunction. Nonylphenol was not found to cause mutations or chromosomal aberrations. The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis. for linear material: Maternal effects, effects on fertility recorded.</p>
<b>tris(2-chloroisopropyl)phosphate</b>	<p>Non-chlorinated triphosphates have varying chemical, physical, toxicological and environmental properties. Blooming has been identified as a source of potential exposure (human and environmental) to triphosphate plasticisers / flame retardants. Blooming is the movement of an ingredient in rubber or plastic to the outer surface after curing. For tris(2-chloro-1-methylethyl)phosphate (TCPP) The flame retardant product supplied in the EU, marketed as TCPP, is actually a reaction mixture containing four isomers. The individual isomers in this reaction mixture are not separated or marketed. The individual components are never produced as such. Alkyl esters of phosphoric acid exhibit a low to moderate acute toxicity and metabolised. From studies done on mice, they are not likely to cause gene damage or affect reproduction. However, 2-ethylhexanoic acid produced an effect on newborn rats at high doses to the pregnant female.</p>
<b>GLYCEROL, ETHOXYLATED, PROPOXYLATED &amp; SUCROSE, PROPOXYLATED &amp; 4-NONYLPHENOL, BRANCHED, ETHOXYLATED</b>	<p>Polyethers (such as ethoxylated surfactants and polyethylene glycols) are highly susceptible to being oxidized in the air. They then form complex mixtures of oxidation products. Animal testing reveals that whole the pure, non-oxidised surfactant is non-sensitizing, many of the oxidation products are sensitisers. The oxidation products also cause irritation.</p>
<b>SUCROSE, PROPOXYLATED &amp; 2-[[[(2-DIMETHYLAMINO)ETHYL)METHYLAMINO]ETHANOL &amp; N,N,N'-TRIMETHYL-N'-(2-HYDROXYETHYL)BIS(AMINOETHYL) ETHER</b>	No significant acute toxicological data identified in literature search.
<b>POLYPROPYLENE GLYCOL GLYCERYL ETHER &amp; 4-NONYLPHENOL, BRANCHED, ETHOXYLATED</b>	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.
<b>N,N-DIMETHYLDIGLYCOLAMINE &amp; 2-[[[(2-DIMETHYLAMINO)ETHYL)METHYLAMINO]ETHANOL</b>	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. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions.
<b>N,N-DIMETHYLDIGLYCOLAMINE &amp; 2-[[[(2-DIMETHYLAMINO)ETHYL)METHYLAMINO]ETHANOL &amp; N,N,N'-TRIMETHYL-N'-(2-HYDROXYETHYL)BIS(AMINOETHYL) ETHER</b>	<p>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. 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>

Acute Toxicity	✘	Carcinogenicity	✘
Skin Irritation/Corrosion	✔	Reproductivity	✘

## HandiFoam HVLP Low Density

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

HandiFoam HVLP Low Density	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available

glycerol, ethoxylated, propoxylated	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available

sucrose, propoxylated	Endpoint	Test Duration (hr)	Species	Value	Source
	NOEC(ECx)	504h	Crustacea	>=10mg/l	2
	LC50	96h	Fish	>1000mg/l	2
	EC50	48h	Crustacea	>100mg/l	2

polypropylene glycol glyceryl ether	Endpoint	Test Duration (hr)	Species	Value	Source
	BCF	1008h	Fish	0.2-2.2	7
	EC50	72h	Algae or other aquatic plants	>100mg/l	2
	LC50	96h	Fish	>1000mg/l	2
	EC50	48h	Crustacea	>100mg/l	2
NOEC(ECx)	504h	Crustacea	>=10mg/l	2	

4-nonylphenol, branched, ethoxylated	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	72h	Algae or other aquatic plants	19.485mg/l	2
	EC50	48h	Crustacea	14mg/l	2
	LC50	96h	Fish	>10mg/l	2
	NOEC(ECx)	96h	Algae or other aquatic plants	8mg/l	2
EC50	96h	Algae or other aquatic plants	12mg/l	2	

tris(2-chloroisopropyl)phosphate	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	96h	Algae or other aquatic plants	4mg/l	1
	ErC50	72h	Algae or other aquatic plants	4mg/l	1
	EC50	72h	Algae or other aquatic plants	33mg/l	2
	BCF	1008h	Fish	0.8-2.8	7
	EC50	48h	Crustacea	65335mg/l	1
	LC50	96h	Fish	11mg/l	2
EC50(ECx)	96h	Algae or other aquatic plants	4mg/l	1	

N,N-dimethyldiglycolamine	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	72h	Algae or other aquatic plants	73mg/l	2
	LC50	96h	Fish	~320mg/l	2
	EC50	48h	Crustacea	>100mg/l	2
EC10(ECx)	72h	Algae or other aquatic plants	23mg/l	2	

2-(((2-dimethylamino)ethyl)methylamino)ethanol	Endpoint	Test Duration (hr)	Species	Value	Source
	NOEC(ECx)	72h	Algae or other aquatic plants	32mg/l	2
	EC50	72h	Algae or other aquatic plants	42mg/l	2
	LC50	96h	Fish	>54mg/l	2
EC50	48h	Crustacea	>100mg/l	2	



## HandiFoam HVLP Low Density

N,N,N'-trimethyl-N'-(2-hydroxyethyl)bis(aminoethyl) ether	Endpoint	Test Duration (hr)	Species	Value	Source
	NOEC(ECx)	672h	Crustacea	1.9mg/l	2
	EC50	72h	Algae or other aquatic plants	62.5mg/l	2
	LC50	96h	Fish	>320mg/l	2
	EC50	48h	Crustacea	59mg/l	2

**Legend:** Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 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

Surfactants are in general toxic to aquatic organisms due to their surface-active properties. Historically, synthetic surfactants were often composed of branched alkyl chains resulting in poor biodegradability which led to concerns about their environmental effects. Today however, many of them, for example those used in large amounts, globally, as detergents, are linear and therefore readily biodegradable and considered to be of rather low risk to the environment.

For Phenols:

Ecotoxicity - Phenols with log Pow >7.4 are expected to exhibit low toxicity to aquatic organisms however; the toxicity of phenols with a lower log Pow is variable. Dinitrophenols are more toxic than predicted from QSAR estimates. Hazard information for these groups is not generally available.

For Surfactants: Kow cannot be easily determined due to hydrophilic/hydrophobic properties of the molecules in surfactants. BCF value: 1-350.

Aquatic Fate: Surfactants tend to accumulate at the interface of the air with water and are not extracted into one or the other liquid phases.

For Alkylphenols and their Ethoxylates, or Propoxylates (APE):

Environmental fate: Alkylphenols are found everywhere in the environment, when released. Releases are generally as wastes; they are extensively used throughout industry and in the home. Alkylphenol ethoxylates are widely used surfactants in domestic and industrial products, which are commonly found in wastewater discharges and in sewage treatment plant effluents.

**DO NOT discharge into sewer or waterways.**

## Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
tris(2-chloroisopropyl)phosphate	HIGH	HIGH
N,N-dimethyldiglycolamine	LOW	LOW
2-(((2-dimethylamino)ethyl)methylamino)ethanol	HIGH	HIGH

## Bioaccumulative potential

Ingredient	Bioaccumulation
polypropylene glycol glyceryl ether	LOW (BCF = 7)
tris(2-chloroisopropyl)phosphate	LOW (BCF = 4.6)
N,N-dimethyldiglycolamine	LOW (LogKOW = -1.2095)
2-(((2-dimethylamino)ethyl)methylamino)ethanol	LOW (LogKOW = -1.2379)

## Mobility in soil

Ingredient	Mobility
tris(2-chloroisopropyl)phosphate	LOW (KOC = 1278)
N,N-dimethyldiglycolamine	HIGH (KOC = 1)
2-(((2-dimethylamino)ethyl)methylamino)ethanol	LOW (KOC = 10)

## SECTION 13 Disposal considerations

## Waste treatment methods

Product / Packaging disposal	<ul style="list-style-type: none"> <li>▶ Containers may still present a chemical hazard/ danger when empty.</li> <li>▶ Steel drums must be emptied and can be sent to a licensed drum reconditioner for reuse, a scrap metal dealer or an approved landfill. Do not attempt to refill or clean containers since residue is difficult to remove. Under no circumstances should empty drums be burned or cut open with gas or electric torch as toxic decomposition product may be liberated. Do not reuse empty containers.</li> </ul> <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"> <li>▶ <b>DO NOT allow wash water from cleaning or process equipment to enter drains.</b></li> <li>▶ It may be necessary to collect all wash water for treatment before disposal.</li> <li>▶ In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.</li> <li>▶ Recycle wherever possible or consult manufacturer for recycling options.</li> <li>▶ Consult State Land Waste Authority for disposal.</li> <li>▶ Bury or incinerate residue at an approved site.</li> </ul>
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## SECTION 14 Transport information

## Labels Required

Marine Pollutant	NO
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Land transport (DOT): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Continued...

## HandiFoam HVLP Low Density

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

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

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

Not Applicable

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

Product name	Group
glycerol, ethoxylated, propoxylated	Not Available
sucrose, propoxylated	Not Available
polypropylene glycol glyceryl ether	Not Available
4-nonylphenol, branched, ethoxylated	Not Available
tris(2-chloroisopropyl)phosphate	Not Available
N,N-dimethyldiglycolamine	Not Available
2-(((2-dimethylamino)ethyl)methylamino)ethanol	Not Available
N,N,N'-trimethyl-N'-(2-hydroxyethyl)bis(aminoethyl) ether	Not Available

**Transport in bulk in accordance with the ICG Code**

Product name	Ship Type
glycerol, ethoxylated, propoxylated	Not Available
sucrose, propoxylated	Not Available
polypropylene glycol glyceryl ether	Not Available
4-nonylphenol, branched, ethoxylated	Not Available
tris(2-chloroisopropyl)phosphate	Not Available
N,N-dimethyldiglycolamine	Not Available
2-(((2-dimethylamino)ethyl)methylamino)ethanol	Not Available
N,N,N'-trimethyl-N'-(2-hydroxyethyl)bis(aminoethyl) ether	Not Available

## SECTION 15 Regulatory information

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

**glycerol, ethoxylated, propoxylated is found on the following regulatory lists**

US - California Hazardous Air Pollutants Identified as Toxic Air Contaminants  
 US Clean Air Act - Hazardous Air Pollutants  
 US DOE Temporary Emergency Exposure Limits (TEELs)

US EPCRA Section 313 Chemical List  
 US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory  
 US TSCA Chemical Substance Inventory - Interim List of Active Substances

**sucrose, propoxylated is found on the following regulatory lists**

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

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

**polypropylene glycol glyceryl ether is found on the following regulatory lists**

US - California Hazardous Air Pollutants Identified as Toxic Air Contaminants  
 US Clean Air Act - Hazardous Air Pollutants  
 US EPCRA Section 313 Chemical List

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

**4-nonylphenol, branched, ethoxylated is found on the following regulatory lists**

Chemical Footprint Project - Chemicals of High Concern List  
 US DOE Temporary Emergency Exposure Limits (TEELs)  
 US EPCRA Section 313 Chemical List

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

**tris(2-chloroisopropyl)phosphate is found on the following regulatory lists**

US - California - Biomonitoring - Priority Chemicals  
 US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

US TSCA Chemical Substance Inventory - Interim List of Active Substances

**N,N-dimethyldiglycolamine is found on the following regulatory lists**

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

US TSCA Chemical Substance Inventory - Interim List of Active Substances

**2-(((2-dimethylamino)ethyl)methylamino)ethanol is found on the following regulatory lists**

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

US TSCA Chemical Substance Inventory - Interim List of Active Substances

**N,N,N'-trimethyl-N'-(2-hydroxyethyl)bis(aminoethyl) ether is found on the following regulatory lists**

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

US TSCA Chemical Substance Inventory - Interim List of Active Substances

### Federal Regulations

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**Section 311/312 hazard categories**

Continued...

## HandiFoam HVLP Low Density

Flammable (Gases, Aerosols, Liquids, or Solids)	No
Gas under pressure	No
Explosive	No
Self-heating	No
Pyrophoric (Liquid or Solid)	No
Pyrophoric Gas	No
Corrosive to metal	No
Oxidizer (Liquid, Solid or Gas)	No
Organic Peroxide	No
Self-reactive	No
In contact with water emits flammable gas	No
Combustible Dust	No
Carcinogenicity	No
Acute toxicity (any route of exposure)	No
Reproductive toxicity	No
Skin Corrosion or Irritation	Yes
Respiratory or Skin Sensitization	No
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

**State Regulations****US. California Proposition 65**

None Reported

**National Inventory Status**

National Inventory	Status
Australia - AIIIC / Australia Non-Industrial Use	No (N,N,N'-trimethyl-N'-(2-hydroxyethyl)bis(aminoethyl) ether)
Canada - DSL	Yes
Canada - NDSL	No (glycerol, ethoxylated, propoxylated; sucrose, propoxylated; polypropylene glycol glyceryl ether; 4-nonylphenol, branched, ethoxylated; tris(2-chloroisopropyl)phosphate; N,N-dimethyldiglycolamine; 2-(((2-dimethylamino)ethyl)methylamino)ethanol; N,N,N'-trimethyl-N'-(2-hydroxyethyl)bis(aminoethyl) ether)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	No (glycerol, ethoxylated, propoxylated)
Japan - ENCS	No (glycerol, ethoxylated, propoxylated)
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	Yes
Taiwan - TCSI	Yes
Mexico - INSQ	No (sucrose, propoxylated; polypropylene glycol glyceryl ether; N,N-dimethyldiglycolamine; 2-(((2-dimethylamino)ethyl)methylamino)ethanol)
Vietnam - NCI	Yes
Russia - FBEPH	No (sucrose, propoxylated; N,N,N'-trimethyl-N'-(2-hydroxyethyl)bis(aminoethyl) ether)
<b>Legend:</b>	Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory and are not exempt from listing (see specific ingredients in brackets)

**SECTION 16 Other information**

Revision Date	07/07/2021
Initial Date	05/05/2021

**SDS Version Summary**

Version	Date of Update	Sections Updated
1.3.4.8	07/07/2021	Ingredients

Continued...

**HandiFoam HVLP Low Density****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.

**Definitions and abbreviations**

PC—TWA: Permissible Concentration-Time Weighted Average  
PC—STEL: Permissible Concentration-Short Term Exposure Limit  
IARC: International Agency for Research on Cancer  
ACGIH: American Conference of Governmental Industrial Hygienists  
STEL: Short Term Exposure Limit  
TEEL: Temporary Emergency Exposure Limit.  
IDLH: Immediately Dangerous to Life or Health Concentrations  
ES: Exposure Standard  
OSF: Odour Safety Factor  
NOAEL :No Observed Adverse Effect Level  
LOAEL: Lowest Observed Adverse Effect Level  
TLV: Threshold Limit Value  
LOD: Limit Of Detection  
OTV: Odour Threshold Value  
BCF: BioConcentration Factors  
BEI: Biological Exposure Index  
AIIIC: Australian Inventory of Industrial Chemicals  
DSL: Domestic Substances List  
NDSL: Non-Domestic Substances List  
IECSC: Inventory of Existing Chemical Substance in China  
EINECS: European INventory of Existing Commercial chemical Substances  
ELINCS: European List of Notified Chemical Substances  
NLP: No-Longer Polymers  
ENCS: Existing and New Chemical Substances Inventory  
KECI: Korea Existing Chemicals Inventory  
NZIoC: New Zealand Inventory of Chemicals  
PICCS: Philippine Inventory of Chemicals and Chemical Substances  
TSCA: Toxic Substances Control Act  
TCSI: Taiwan Chemical Substance Inventory  
INSQ: Inventario Nacional de Sustancias Químicas  
NCI: National Chemical Inventory  
FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

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