



# Polyset AH-160 HFC2 B-Side

## ICP Building Solutions Group

Version No: 1.2.2.1  
Safety Data Sheet according to OSHA HazCom Standard (2012) requirements

Issue Date: **04/22/2021**  
Print Date: **04/22/2021**  
S.GHS.USA.EN

### SECTION 1 Identification

#### Product Identifier

Product name	Polyset AH-160 HFC2 B-Side
Synonyms	Not Available
Proper shipping name	Chemical under pressure, n.o.s. (contains 1,1,1,2-tetrafluoroethane)
Other means of identification	Not Available

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

Relevant identified uses	Low Pressure Polyurethane Foam Adhesive
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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 Ohio United States
Telephone	330-753-4585 1-800-321-5585
Fax	Not Available
Website	<a href="http://www.handifoam.com">www.handifoam.com</a>
Email	Not Available

#### 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	Eye Irritation Category 2A, Chronic Aquatic Hazard Category 2, Reproductive Toxicity Category 2, Gas under Pressure (Compressed gas), Carcinogenicity Category 2
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#### Label elements

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

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

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H280	Contains gas under pressure; may explode if heated.
H351	Suspected of causing cancer.

**Hazard(s) not otherwise classified**

Not Applicable

**Precautionary statement(s) Prevention**

P201	Obtain special instructions before use.
P281	Use personal protective equipment as required.
P273	Avoid release to the environment.

**Precautionary statement(s) Response**

P308+P313	IF exposed or concerned: Get medical advice/attention.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313	If eye irritation persists: Get medical advice/attention.

**Precautionary statement(s) Storage**

P405	Store locked up.
P410+P403	Protect from sunlight. Store in a well-ventilated place.

**Precautionary statement(s) Disposal**

P501	Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.
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**SECTION 3 Composition / information on ingredients****Substances**

See section below for composition of Mixtures

**Mixtures**

CAS No	%[weight]	Name
13674-84-5*	10-30	<u>tris(2-chloroisopropyl)phosphate</u>
127087-87-0	0.5-1	<u>4-nonylphenol, branched, ethoxylated</u>
3164-85-0	0.1-0.5	<u>potassium 2-ethylhexanoate</u>
7560-83-0	0.1-0.5	<u>N-methyldicyclohexylamine</u>
111-46-6	1-5	<u>diethylene glycol</u>
198840-65-2	3-7	<u>C14 alkanes, chlorinated- (chlorinated paraffin)</u>
9003-11-6	0.5-1	<u>polypropylene/ polyethylene glycol copolymer</u>
811-97-2	10-20	<u>1,1,1,2-tetrafluoroethane</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**

<b>Eye Contact</b>	<ul style="list-style-type: none"> <li>▶ If product comes in contact with eyes remove the patient from gas source or contaminated area.</li> <li>▶ Take the patient to the nearest eye wash, shower or other source of clean water.</li> <li>▶ Open the eyelid(s) wide to allow the material to evaporate.</li> <li>▶ Gently rinse the affected eye(s) with clean, cool water for at least 15 minutes. Have the patient lie or sit down and tilt the head back. Hold the eyelid(s) open and pour water slowly over the eyeball(s) at the inner corners, letting the water run out of the outer corners.</li> <li>▶ The patient may be in great pain and wish to keep the eyes closed. It is important that the material is rinsed from the eyes to prevent further damage.</li> <li>▶ Ensure that the patient looks up, and side to side as the eye is rinsed in order to better reach all parts of the eye(s)</li> <li>▶ Transport to hospital or doctor.</li> <li>▶ Even when no pain persists and vision is good, a doctor should examine the eye as delayed damage may occur.</li> <li>▶ If the patient cannot tolerate light, protect the eyes with a clean, loosely tied bandage.</li> <li>▶ Ensure verbal communication and physical contact with the patient.</li> </ul> <p><b>DO NOT</b> allow the patient to rub the eyes  <b>DO NOT</b> allow the patient to tightly shut the eyes  <b>DO NOT</b> introduce oil or ointment into the eye(s) without medical advice  <b>DO NOT</b> use hot or tepid water.</p>
<b>Skin Contact</b>	<p>If skin contact occurs:</p> <ul style="list-style-type: none"> <li>▶ Immediately remove all contaminated clothing, including footwear.</li> <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>▶ Following exposure to gas, remove the patient from the gas source or contaminated area.</li> <li>▶ NOTE: Personal Protective Equipment (PPE), including positive pressure self-contained breathing apparatus may be required to assure the safety of the rescuer.</li> <li>▶ Prostheses such as false teeth, which may block the airway, should be removed, where possible, prior to initiating first aid procedures.</li> <li>▶ If the patient is not breathing spontaneously, administer rescue breathing.</li> </ul>

Continued...

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	<ul style="list-style-type: none"> <li>▶ If the patient does not have a pulse, administer CPR.</li> <li>▶ If medical oxygen and appropriately trained personnel are available, administer 100% oxygen.</li> <li>▶ Summon an emergency ambulance. If an ambulance is not available, contact a physician, hospital, or Poison Control Centre for further instruction.</li> <li>▶ Keep the patient warm, comfortable and at rest while awaiting medical care.</li> <li>▶ <b>MONITOR THE BREATHING AND PULSE, CONTINUOUSLY.</b></li> <li>▶ Administer rescue breathing (preferably with a demand-valve resuscitator, bag-valve mask-device, or pocket mask as trained) or CPR if necessary.</li> </ul>
<b>Ingestion</b>	<p>Not considered a normal route of entry.</p> <ul style="list-style-type: none"> <li>▶ Avoid giving milk or oils.</li> <li>▶ Avoid giving alcohol.</li> </ul>

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

See Section 11

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

for intoxication due to Freons/ Halons;

**A: Emergency and Supportive Measures**

▶ Maintain an open airway and assist ventilation if necessary

▶ Treat coma and arrhythmias if they occur. Avoid (adrenaline) epinephrine or other sympathomimetic amines that may precipitate ventricular arrhythmias. Tachyarrhythmias caused by increased myocardial sensitisation may be treated with propranolol, 1-2 mg IV or esmolol 25-100 microgm/kg/min IV.

▶ Monitor the ECG for 4-6 hours

**B: Specific drugs and antidotes:**

▶ There is no specific antidote

**C: Decontamination**

▶ Inhalation; remove victim from exposure, and give supplemental oxygen if available.

▶ Ingestion; (a) Prehospital: Administer activated charcoal, if available. **DO NOT** induce vomiting because of rapid absorption and the risk of abrupt onset CNS depression. (b)

Hospital: Administer activated charcoal, although the efficacy of charcoal is unknown. Perform gastric lavage only if the ingestion was very large and recent (less than 30 minutes)

**D: Enhanced elimination:**

▶ There is no documented efficacy for diuresis, haemodialysis, haemoperfusion, or repeat-dose charcoal.

**POISONING and DRUG OVERDOSE, Californian Poison Control System Ed. Kent R Olson; 3rd Edition**

▶ Do not administer sympathomimetic drugs unless absolutely necessary as material may increase myocardial irritability.

▶ No specific antidote.

▶ Because rapid absorption may occur through lungs if aspirated and cause systematic effects, the decision of whether to induce vomiting or not should be made by an attending physician.

▶ If lavage is performed, suggest endotracheal and/or esophageal control.

▶ Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach.

▶ Treatment based on judgment of the physician in response to reactions of the patient

For gas exposures:

**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.

**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

**SECTION 5 Fire-fighting measures****Extinguishing media****SMALL FIRE:** Use extinguishing agent suitable for type of surrounding fire.**LARGE FIRE:** Cool cylinder.**DO NOT** direct water at source of leak or venting safety devices as icing may occur.**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>	<p>-----</p> <p>GENERAL</p> <p>-----</p> <ul style="list-style-type: none"> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>▶ Wear breathing apparatus and protective gloves.</li> <li>▶ Fight fire from a safe distance, with adequate cover.</li> </ul>
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<b>Fire/Explosion Hazard</b>	<ul style="list-style-type: none"> <li>▶ Containers may explode when heated - Ruptured cylinders may rocket</li> <li>▶ Fire exposed containers may vent contents through pressure relief devices.</li> <li>▶ High concentrations of gas may cause asphyxiation without warning.</li> <li>▶ May decompose explosively when heated or involved in fire.</li> </ul> <p>Decomposition may produce toxic fumes of: carbon monoxide (CO) Combustion products include: carbon dioxide (CO<sub>2</sub>) hydrogen fluoride other pyrolysis products typical of burning organic material.</p>
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**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>▶ Avoid breathing vapour and any contact with liquid or gas. Protective equipment including respirator should be used.</li> <li>▶ <b>DO NOT enter confined spaces where gas may have accumulated.</b></li> </ul>
<b>Major Spills</b>	<ul style="list-style-type: none"> <li>▶ Clear area of all unprotected personnel and move upwind.</li> <li>▶ Alert Emergency Authority and advise them of the location and nature of hazard.</li> <li>▶ Wear breathing apparatus and protective gloves.</li> <li>▶ Remove leaking cylinders to a safe place.</li> <li>▶ Fit vent pipes. Release pressure under safe, controlled conditions</li> <li>▶ Burn issuing gas at vent pipes.</li> <li>▶ <b>DO NOT exert excessive pressure on valve; DO NOT attempt to operate damaged valve.</b></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>·Consider use in closed pressurised systems, fitted with temperature, pressure and safety relief valves which are vented for safe dispersal. Use only properly specified equipment which is suitable for this product, its supply pressure and temperature</li> <li>·The tubing network design connecting gas cylinders to the delivery system should include appropriate pressure indicators and vacuum or suction lines.</li> <li>·Fully-welded types of pressure gauges, where the bourdon tube sensing element is welded to the gauge body, are recommended.</li> </ul> <p>▶ <b>DO NOT transfer gas from one cylinder to another.</b></p>
<b>Other information</b>	<ul style="list-style-type: none"> <li>▶ Cylinders should be stored in a purpose-built compound with good ventilation, preferably in the open.</li> <li>▶ Such compounds should be sited and built in accordance with statutory requirements.</li> <li>▶ The storage compound should be kept clear and access restricted to authorised personnel only.</li> </ul>

**Conditions for safe storage, including any incompatibilities**

<b>Suitable container</b>	<ul style="list-style-type: none"> <li>▶ Cylinder:</li> <li>▶ Ensure the use of equipment rated for cylinder pressure.</li> <li>▶ Ensure the use of compatible materials of construction.</li> <li>▶ Valve protection cap to be in place until cylinder is secured, connected.</li> </ul>
<b>Storage incompatibility</b>	<p>As a general rule, hydrofluorocarbons tend to be flammable unless they contain more fluorine atoms than hydrogen atoms.</p> <ul style="list-style-type: none"> <li>▶ Avoid magnesium, aluminium and their alloys, brass and steel.</li> <li>▶ Avoid reaction with oxidising agents</li> <li>▶ Compressed gases may contain a large amount of kinetic energy over and above that potentially available from the energy of reaction produced by the gas in chemical reaction with other substances</li> </ul>

**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
4-nonylphenol, branched, ethoxylated	30 mg/m <sup>3</sup>	330 mg/m <sup>3</sup>	2,000 mg/m <sup>3</sup>
4-nonylphenol, branched, ethoxylated	30 mg/m <sup>3</sup>	330 mg/m <sup>3</sup>	2,000 mg/m <sup>3</sup>
diethylene glycol	6.9 ppm	140 ppm	860 ppm

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Ingredient	TEEL-1	TEEL-2	TEEL-3
polypropylene/ polyethylene glycol copolymer	6.9 mg/m3	76 mg/m3	460 mg/m3
1,1,1,2-tetrafluoroethane	Not Available	Not Available	Not Available

Ingredient	Original IDLH	Revised IDLH
tris(2-chloroisopropyl)phosphate	Not Available	Not Available
4-nonylphenol, branched, ethoxylated	Not Available	Not Available
potassium 2-ethylhexanoate	Not Available	Not Available
N-methylcyclohexylamine	Not Available	Not Available
diethylene glycol	Not Available	Not Available
C14 alkanes, chlorinated-, (chlorinated paraffin)	Not Available	Not Available
polypropylene/ polyethylene glycol copolymer	Not Available	Not Available
1,1,1,2-tetrafluoroethane	Not Available	Not Available


## Occupational Exposure Banding

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
tris(2-chloroisopropyl)phosphate	E	≤ 0.1 ppm
4-nonylphenol, branched, ethoxylated	E	≤ 0.1 ppm
diethylene glycol	E	≤ 0.1 ppm
C14 alkanes, chlorinated-, (chlorinated paraffin)	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

<b>Appropriate engineering controls</b>	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.
<b>Personal protection</b>	
<b>Eye and face protection</b>	<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>
<b>Skin protection</b>	See Hand protection below
<b>Hands/feet protection</b>	<ul style="list-style-type: none"> <li>▶ When handling sealed and suitably insulated cylinders wear cloth or leather gloves.</li> </ul>
<b>Body protection</b>	See Other protection below
<b>Other protection</b>	<ul style="list-style-type: none"> <li>▶ Protective overalls, closely fitted at neck and wrist.</li> <li>▶ Eye-wash unit.</li> <li>▶ Ensure availability of lifeline in confined spaces.</li> </ul>

## Respiratory protection

- ▶ 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
- ▶ Positive pressure, full face, air-supplied breathing apparatus should be used for work in enclosed spaces if a leak is suspected or the primary containment is to be opened (e.g. for a cylinder change)
- ▶ Air-supplied breathing apparatus is required where release of gas from primary containment is either suspected or demonstrated.

## SECTION 9 Physical and chemical properties

## Information on basic physical and chemical properties

<b>Appearance</b>	Not Available		
<b>Physical state</b>	Compressed Gas	<b>Relative density (Water= 1)</b>	Not Available

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<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>	Not Available	<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>	Partly miscible	<b>pH as a solution (1%)</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>	<p>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.</p> <p>Exposure to fluorocarbons can produce non-specific flu-like symptoms such as chills, fever, weakness, muscle pain, headache, chest discomfort, sore throat and dry cough with rapid recovery. High concentrations can cause irregular heartbeats and a stepwise reduction in lung capacity. Inhalation of non-toxic gases may cause:</p> <ul style="list-style-type: none"> <li>▶ CNS effects: headache, confusion, dizziness, stupor, seizures and coma;</li> <li>▶ respiratory: shortness of breath and rapid breathing;</li> <li>▶ cardiovascular: collapse and irregular heart beats;</li> <li>▶ gastrointestinal: mucous membrane irritation, nausea and vomiting.</li> </ul>				
<b>Ingestion</b>	<p>Not normally a hazard due to physical form of product.</p> <p>Considered an unlikely route of entry in commercial/industrial environments</p>				
<b>Skin Contact</b>	<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>There is some evidence to suggest that this material can cause inflammation of the skin on contact in some persons.</p> <p>Fluorocarbons remove natural oils from the skin, causing irritation, dryness and sensitivity.</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>				
<b>Eye</b>	<p>Although the material is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn).</p> <p>Not considered to be a risk because of the extreme volatility of the gas.</p>				
<b>Chronic</b>	<p>There has been concern that this material can cause cancer or mutations, but there is not enough data to make an assessment.</p> <p>Repeated or long-term occupational exposure is likely to produce cumulative health effects involving organs or biochemical systems.</p> <p>Ample evidence from experiments exists that there is a suspicion this material directly reduces fertility.</p> <p>Main route of exposure to the gas in the workplace is by inhalation.</p> <p>Fluorocarbons can cause an increased risk of cancer, spontaneous abortion and birth defects.</p>				
<b>Polyset AH-160 HFC2 B-Side</b>	<table border="1" style="width: 100%;"> <tr> <td><b>TOXICITY</b></td> <td><b>IRRITATION</b></td> </tr> <tr> <td>Not Available</td> <td>Not Available</td> </tr> </table>	<b>TOXICITY</b>	<b>IRRITATION</b>	Not Available	Not Available
<b>TOXICITY</b>	<b>IRRITATION</b>				
Not Available	Not Available				

## Polyset AH-160 HFC2 B-Side

	TOXICITY	IRRITATION
tris(2-chloroisopropyl)phosphate	Dermal (rabbit) LD50: >2000 mg/kg <sup>[1]</sup>	Eye (rabbit): non-irritating*
	Inhalation(Rat) LC50; >4.6 mg/l4h <sup>[2]</sup>	Skin (rabbit): mild (24 h):
	Oral(Rat) LD50; >500 mg/kg <sup>[1]</sup>	
4-nonylphenol, branched, ethoxylated	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>
potassium 2-ethylhexanoate	dermal (rat) LD50: >2000 mg/kg <sup>[1]</sup>	Not Available
	Oral(Rat) LD50; 2043 mg/kg <sup>[1]</sup>	
N-methyldicyclohexylamine	Dermal (rabbit) LD50: 295 mg/kg <sup>[1]</sup>	Not Available
	Inhalation(Rat) LC50; >0.54 mg/L4h <sup>[2]</sup>	
	Oral(Rat) LD50; >=267 mg/kg <sup>[1]</sup>	
diethylene glycol	Dermal (rabbit) LD50: 11890 mg/kg <sup>[2]</sup>	Eye (rabbit) 50 mg mild
	Inhalation(Rat) LC50; >4.6 mg/l4h <sup>[1]</sup>	Eye: no adverse effect observed (not irritating) <sup>[1]</sup>
	Oral(Mouse) LD50; 2300 mg/kg <sup>[2]</sup>	Skin (human): 112 mg/3d-I mild
		Skin (rabbit): 500 mg mild
	Skin: no adverse effect observed (not irritating) <sup>[1]</sup>	
C14 alkanes, chlorinated-, (chlorinated paraffin)	Not Available	Not Available
polypropylene/ polyethylene glycol copolymer	Inhalation(Rat) LC50; 0.32 mg/L4h <sup>[2]</sup>	Eye (rabbit): 500 mg/24h - mild
	Oral(Rat) LD50; 2300 mg/kg <sup>[2]</sup>	Skin (rabbit): 500 mg/24h - mild
1,1,1,2-tetrafluoroethane	Inhalation(Rat) LC50; 359453.102 ppm4h <sup>[2]</sup>	Not Available
<b>Legend:</b>	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>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.</p> <p>For tris(2-chloro-1-methylethyl)phosphate (TCPP)</p> <p>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.</p> <p>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>4-NONYLPHENOL, BRANCHED, ETHOXYLATED</b>	<p>For nonylphenol and its compounds:</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>For nonylphenol:</p> <p>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.</p> <p>The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.</p> <p>for linear material: Maternal effects, effects on fertility recorded.</p>

### Polyset AH-160 HFC2 B-Side

<b>POTASSIUM 2-ETHYLHEXANOATE</b>	<p>For aliphatic fatty acids (and salts)</p> <p>Acute oral (gavage) toxicity: The acute oral LD50 values in rats for both were greater than &gt;2000 mg/kg bw Clinical signs were generally associated with poor condition following administration of high doses (salivation, diarrhoea, staining, piloerection and lethargy). There were no adverse effects on body weight in any study. In some studies, excess test substance and/or irritation in the gastrointestinal tract was observed at necropsy. Skin and eye irritation potential, with a few stated exceptions, is chain length dependent and decreases with increasing chain length. According to several OECD test regimes the animal skin irritation studies indicate that the C6-10 aliphatic acids are severely irritating or corrosive, while the C12 aliphatic acid is irritating, and the C14-22 aliphatic acids generally are not irritating or mildly irritating. Human skin irritation studies using more realistic exposures (30-minute, 1-hour or 24-hours) indicate that the aliphatic acids have sufficient, good or very good skin compatibility. Animal eye irritation studies indicate that among the aliphatic acids, the C8-12 aliphatic acids are irritating to the eye while the C14-22 aliphatic acids are not irritating. Eye irritation potential of the ammonium salts does not follow chain length dependence; the C18 ammonium salts are corrosive to the eyes. Dermal absorption: The in vitro penetration of C10, C12, C14, C16 and C18 fatty acids (as sodium salt solutions) through rat skin decreases with increasing chain length. Fatty acid salts of low acute toxicity. Their potential to irritate the skin and eyes is dependent on chain length.</p>
<b>N-METHYLDICYCLOHEXYLAMINE</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. The material may produce respiratory tract irritation, and result in damage to the lung including reduced lung function. Somnolence, convulsions recorded. When applied to the skin of male rabbits, most adverse effects were observed within an hour after treatment and lasted several hours. The onset of paralysis occurred between several hours and two days after treatment. Paralysis affected only the hindlimbs in some rabbits and affected both the forelimbs and hindlimbs in others. Sensitisation: After identification of the slightly irritating and the non-irritating test article concentrations in the primary irritation experiments, a main study was performed with the selected test article concentrations. The experimental animals were intradermally injected with a 5% concentration and epidermally exposed to the undiluted test substance while the control animals were similarly treated, but with the vehicle only. Immediately after the epidermal exposure, the skin irritation was scored. The epidermal exposure the induction phase resulted in severe skin irritation. The epidermal exposure in the challenge phase resulted in one positive sensitisation reaction in response to the 10% test article concentration. Under the conditions used in this study, the substance produced sensitisation rate of 5%. Based on these results and according to the EEC criteria for classification and labelling requirements for dangerous substances and preparations (EEC Directive 91/325/EEC, Amendment to Annex VI of the EEC Directive 67/548/EEC), POLYCAT 12 need not be labelled as a skin sensitizer. Repeat dose toxicity: The test substance caused significant changes of clinical status of animals (mainly convulsions accompanied with marked salivation). These clinical findings were detected in both sexes at the highest dose level. At the middle dose level these symptoms were recorded only sporadically and at the lowest dose level only salivation in males was observed. Genetic toxicity: in vitro The test compound did not demonstrate genetic activity in any of the assays conducted in this evaluation and was considered not mutagenic under these test conditions. Genetic toxicity: in vivo N-methyldicyclohexylamine did not increase the frequency of aberrant cells in rat bone marrow. Toxicity to reproduction: Based on the Reproduction/Developmental toxicity screening test (OECD Guideline 421), NOAEL (offsprings): 40 mg/kg bw/day (male/female), NOAEL (P): 40 mg/kg bw/day (male/female) Developmental; toxicity/ teratogenicity: *REACH Dossier</p>
<b>DIETHYLENE GLYCOL</b>	Diglycolic acid is formed following the oxidation of accidentally ingested diethylene glycol in the body and can lead to severe complications with fatal outcome.
<b>C14 ALKANES, CHLORINATED-, (CHLORINATED PARAFFIN)</b>	<b>WARNING:</b> This substance has been classified by the IARC as Group 2B: Possibly Carcinogenic to Humans. Tenth Annual Report on Carcinogens: Substance anticipated to be Carcinogen [National Toxicology Program: U.S. Dep. of Health & Human Services 2002]
<b>POLYPROPYLENE/ POLYETHYLENE GLYCOL COPOLYMER</b>	* Varies - dependent on degree of ethoxylation.
<b>1,1,1,2-TETRAFLUOROETHANE</b>	* with added oxygen - ZhongHao New Chemical Materials MSDS Excessive concentration can have a narcotic effect; inhalation of high concentrations of decomposition products can cause lung oedema.
<b>Polyset AH-160 HFC2 B-Side &amp; 1,1,1,2-TETRAFLUOROETHANE</b>	Disinfection byproducts (DBPs) are formed when disinfectants such as chlorine, chloramines and ozone react with organic and inorganic matter in water. Animal studies have shown that some DBPs cause cancer. To date, several hundred DBPs have been identified. Numerous haloalkanes and haloalkenes have been tested for cancer-causing and mutation-causing activities.
<b>Polyset AH-160 HFC2 B-Side &amp; C14 ALKANES, CHLORINATED-, (CHLORINATED PARAFFIN)</b>	C12, 60% Chlorinated paraffin is classified by IARC as possibly causing cancer in humans. In experimental animals, oral exposure to its C12, 59% variant plus corn oil produced tumour and early infant death. High molecular weight liquid chloroparaffins are considered to be practically non-harmful. Special consideration should be given to solid grades of the material (eg Cereclor 70) because of relatively high levels of carbon tetrachloride remaining as a residual reactant. Vapours are readily absorbed through intact skin, requiring additional precautions in handling. Lifetime studies have been carried out with two grades of chlorinated paraffins.
<b>4-NONYLPHENOL, BRANCHED, ETHOXYLATED &amp; POLYPROPYLENE/ POLYETHYLENE GLYCOL COPOLYMER</b>	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 sensitizers. The oxidation products also cause irritation.
<b>4-NONYLPHENOL, BRANCHED, ETHOXYLATED &amp; N-METHYLDICYCLOHEXYLAMINE &amp; DIETHYLENE GLYCOL &amp; POLYPROPYLENE/ POLYETHYLENE GLYCOL COPOLYMER</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.



### Polyset AH-160 HFC2 B-Side

<b>POTASSIUM 2-ETHYLHEXANOATE &amp; C14 ALKANES, CHLORINATED-, (CHLORINATED PARAFFIN)</b>	No significant acute toxicological data identified in literature search.
<b>N-METHYLDICYCLOHEXYLAMINE &amp; POLYPROPYLENE/ POLYETHYLENE GLYCOL COPOLYMER</b>	The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.

<b>Acute Toxicity</b>	<b>✗</b>	<b>Carcinogenicity</b>	<b>✓</b>
<b>Skin Irritation/Corrosion</b>	<b>✗</b>	<b>Reproductivity</b>	<b>✓</b>
<b>Serious Eye Damage/Irritation</b>	<b>✓</b>	<b>STOT - Single Exposure</b>	<b>✗</b>
<b>Respiratory or Skin sensitisation</b>	<b>✗</b>	<b>STOT - Repeated Exposure</b>	<b>✗</b>
<b>Mutagenicity</b>	<b>✗</b>	<b>Aspiration Hazard</b>	<b>✗</b>

**Legend:** ✗ – Data either not available or does not fill the criteria for classification  
 ✓ – Data available to make classification

## SECTION 12 Ecological information

### Toxicity

Polyset AH-160 HFC2 B-Side	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
tris(2-chloroisopropyl)phosphate	<b>Endpoint</b>	<b>Test Duration (hr)</b>	<b>Species</b>	<b>Value</b>	<b>Source</b>
	ErC50	72	Algae or other aquatic plants	4mg/l	1
	EC50	48	Crustacea	65335mg/l	1
	BCF	1008	Fish	0.8-2.8	7
	LC50	96	Fish	11mg/l	2
	EC50	72	Algae or other aquatic plants	33mg/l	2
	EC50(ECx)	96	Algae or other aquatic plants	4mg/l	1
4-nonylphenol, branched, ethoxylated	<b>Endpoint</b>	<b>Test Duration (hr)</b>	<b>Species</b>	<b>Value</b>	<b>Source</b>
	LC50	96	Fish	>10mg/l	2
	EC50	48	Crustacea	14mg/l	2
	EC50	72	Algae or other aquatic plants	19.485mg/l	2
	NOEC(ECx)	96	Algae or other aquatic plants	8mg/l	2
potassium 2-ethylhexanoate	<b>Endpoint</b>	<b>Test Duration (hr)</b>	<b>Species</b>	<b>Value</b>	<b>Source</b>
	EC50	48	Crustacea	85.4mg/l	2
	LC50	96	Fish	>100mg/l	2
	NOEC(ECx)	504	Crustacea	18mg/l	2
N-methyldicyclohexylamine	<b>Endpoint</b>	<b>Test Duration (hr)</b>	<b>Species</b>	<b>Value</b>	<b>Source</b>
	NOEC(ECx)	72	Algae or other aquatic plants	0.062mg/l	2
	LC50	96	Fish	12mg/l	2
	EC50	48	Crustacea	8mg/l	2
diethylene glycol	<b>Endpoint</b>	<b>Test Duration (hr)</b>	<b>Species</b>	<b>Value</b>	<b>Source</b>
	EC50	48	Crustacea	84000mg/l	1
	LC50	96	Fish	>100mg/l	4
	NOEC(ECx)	192	Algae or other aquatic plants	800mg/l	1
C14 alkanes, chlorinated-, (chlorinated paraffin)	<b>Endpoint</b>	<b>Test Duration (hr)</b>	<b>Species</b>	<b>Value</b>	<b>Source</b>
	Not Available	Not Available	Not Available	Not Available	Not Available
	<b>Endpoint</b>	<b>Test Duration (hr)</b>	<b>Species</b>	<b>Value</b>	<b>Source</b>
	Not Available	Not Available	Not Available	Not Available	Not Available
polypropylene/ polyethylene glycol copolymer	<b>Endpoint</b>	<b>Test Duration (hr)</b>	<b>Species</b>	<b>Value</b>	<b>Source</b>
	Not Available	Not Available	Not Available	Not Available	Not Available
	<b>Endpoint</b>	<b>Test Duration (hr)</b>	<b>Species</b>	<b>Value</b>	<b>Source</b>
	Not Available	Not Available	Not Available	Not Available	Not Available

Continued...

## Polyset AH-160 HFC2 B-Side

1,1,1,2-tetrafluoroethane	Endpoint	Test Duration (hr)	Species	Value	Source
	NOEC(ECx)	72	Algae or other aquatic plants	~13.2mg/l	2
	EC50	48	Crustacea	980mg/L	5
	LC50	96	Fish	450mg/l	2
	EC50	72	Algae or other aquatic plants	>114mg/l	2
	EC50	96	Algae or other aquatic plants	142mg/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

In addition to carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O), the greenhouse gases mentioned in the Kyoto Protocol include synthetic substances that share the common feature of being highly persistent in the atmosphere and inhibit radiation from escaping out of the atmosphere. These synthetic substances include hydrocarbons that are partially fluorinated (HFCs) or totally fluorinated (PFCs) as well as sulfur hexafluoride (SF<sub>6</sub>). The greenhouse potential of these substances, expressed as multiples of that of CO<sub>2</sub>, are within the range of 140 to 11,700 for HFCs, from 6500 to 9,200 for PFCs and 23,900 for SF<sub>6</sub>.

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.

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

## Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
tris(2-chloroisopropyl)phosphate	HIGH	HIGH
N-methyldicyclohexylamine	HIGH	HIGH
diethylene glycol	LOW	LOW
1,1,1,2-tetrafluoroethane	HIGH	HIGH

## Bioaccumulative potential

Ingredient	Bioaccumulation
tris(2-chloroisopropyl)phosphate	LOW (BCF = 4.6)
N-methyldicyclohexylamine	LOW (LogKOW = 3.71)
diethylene glycol	LOW (BCF = 180)
1,1,1,2-tetrafluoroethane	LOW (LogKOW = 1.68)

## Mobility in soil

Ingredient	Mobility
tris(2-chloroisopropyl)phosphate	LOW (KOC = 1278)
N-methyldicyclohexylamine	LOW (KOC = 325)
diethylene glycol	HIGH (KOC = 1)
1,1,1,2-tetrafluoroethane	LOW (KOC = 96.63)



## SECTION 13 Disposal considerations

## Waste treatment methods

Product / Packaging disposal	<ul style="list-style-type: none"> <li>Evaporate residue at an approved site.</li> <li>Return empty containers to supplier. If containers are marked non-returnable establish means of disposal with manufacturer prior to purchase.</li> </ul>
------------------------------	---

## SECTION 14 Transport information

## Labels Required

	
Marine Pollutant	

## Land transport (DOT)

UN number	3500
UN proper shipping name	Chemical under pressure, n.o.s. (contains 1,1,1,2-tetrafluoroethane)

## Polyset AH-160 HFC2 B-Side

<b>Transport hazard class(es)</b>	Class	2.2
	Subrisk	Not Applicable
<b>Packing group</b>	Not Applicable	
<b>Environmental hazard</b>	Environmentally hazardous	
<b>Special precautions for user</b>	Hazard Label	2.2
	Special provisions	362, T50, TP40

## Air transport (ICAO-IATA / DGR)

<b>UN number</b>	3500	
<b>UN proper shipping name</b>	Chemical under pressure, n.o.s. * (contains 1,1,1,2-tetrafluoroethane)	
<b>Transport hazard class(es)</b>	ICAO/IATA Class	2.2
	ICAO / IATA Subrisk	Not Applicable
	ERG Code	2L
<b>Packing group</b>	Not Applicable	
<b>Environmental hazard</b>	Environmentally hazardous	
<b>Special precautions for user</b>	Special provisions	A187
	Cargo Only Packing Instructions	218
	Cargo Only Maximum Qty / Pack	150 kg
	Passenger and Cargo Packing Instructions	218
	Passenger and Cargo Maximum Qty / Pack	75 kg
	Passenger and Cargo Limited Quantity Packing Instructions	Forbidden
	Passenger and Cargo Limited Maximum Qty / Pack	Forbidden

## Sea transport (IMDG-Code / GGVSee)

<b>UN number</b>	3500	
<b>UN proper shipping name</b>	CHEMICAL UNDER PRESSURE, N.O.S. (contains 1,1,1,2-tetrafluoroethane)	
<b>Transport hazard class(es)</b>	IMDG Class	2.2
	IMDG Subrisk	Not Applicable
<b>Packing group</b>	Not Applicable	
<b>Environmental hazard</b>	Marine Pollutant	
<b>Special precautions for user</b>	EMS Number	F-C , S-V
	Special provisions	274 362
	Limited Quantities	0

## 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
tris(2-chloroisopropyl)phosphate	Not Available
4-nonylphenol, branched, ethoxylated	Not Available
potassium 2-ethylhexanoate	Not Available
N-methyldicyclohexylamine	Not Available
diethylene glycol	Not Available
C14 alkanes, chlorinated-, (chlorinated paraffin)	Not Available
polypropylene/ polyethylene glycol copolymer	Not Available
1,1,1,2-tetrafluoroethane	Not Available

## Transport in bulk in accordance with the ICG Code

Product name	Ship Type
tris(2-chloroisopropyl)phosphate	Not Available
4-nonylphenol, branched, ethoxylated	Not Available
potassium 2-ethylhexanoate	Not Available
N-methyldicyclohexylamine	Not Available

## Polyset AH-160 HFC2 B-Side

Product name	Ship Type
diethylene glycol	Not Available
C14 alkanes, chlorinated-, (chlorinated paraffin)	Not Available
polypropylene/ polyethylene glycol copolymer	Not Available
1,1,1,2-tetrafluoroethane	Not Available

## SECTION 15 Regulatory information

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

## tris(2-chloroisopropyl)phosphate 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

## 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

## potassium 2-ethylhexanoate 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-methyldicyclohexylamine 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

## diethylene glycol is found on the following regulatory lists

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)

US TSCA Chemical Substance Inventory - Interim List of Active Substances

## C14 alkanes, chlorinated-, (chlorinated paraffin) is found on the following regulatory lists

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

US TSCA Section 12(b) - List of Chemical Substances Subject to Export Notification Requirements

US TSCA Section 5(a)(2) - Significant New Use Rules (SNURs)

## polypropylene/ polyethylene glycol copolymer is found on the following regulatory lists

US DOE Temporary Emergency Exposure Limits (TEELs)

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

US TSCA Chemical Substance Inventory - Interim List of Active Substances

## 1,1,1,2-tetrafluoroethane is found on the following regulatory lists

US DOE Temporary Emergency Exposure Limits (TEELs)

US EPA Integrated Risk Information System (IRIS)

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

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

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

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

Continued...

## Polyset AH-160 HFC2 B-Side

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 (C14 alkanes, chlorinated-, (chlorinated paraffin))
Canada - DSL	No (C14 alkanes, chlorinated-, (chlorinated paraffin))
Canada - NDSL	No (tris(2-chloroisopropyl)phosphate; 4-nonylphenol, branched, ethoxylated; potassium 2-ethylhexanoate; N-methyldicyclohexylamine; diethylene glycol; C14 alkanes, chlorinated-, (chlorinated paraffin); polypropylene/ polyethylene glycol copolymer; 1,1,1,2-tetrafluoroethane)
China - IECSC	No (C14 alkanes, chlorinated-, (chlorinated paraffin))
Europe - EINEC / ELINCS / NLP	No (C14 alkanes, chlorinated-, (chlorinated paraffin); polypropylene/ polyethylene glycol copolymer)
Japan - ENCS	No (4-nonylphenol, branched, ethoxylated; potassium 2-ethylhexanoate; C14 alkanes, chlorinated-, (chlorinated paraffin))
Korea - KECI	No (N-methyldicyclohexylamine; C14 alkanes, chlorinated-, (chlorinated paraffin))
New Zealand - NZIoC	No (C14 alkanes, chlorinated-, (chlorinated paraffin))
Philippines - PICCS	No (C14 alkanes, chlorinated-, (chlorinated paraffin))
USA - TSCA	Yes
Taiwan - TCSI	No (C14 alkanes, chlorinated-, (chlorinated paraffin))
Mexico - INSQ	No (N-methyldicyclohexylamine; C14 alkanes, chlorinated-, (chlorinated paraffin); polypropylene/ polyethylene glycol copolymer)
Vietnam - NCI	No (C14 alkanes, chlorinated-, (chlorinated paraffin))
Russia - FBEPH	No (potassium 2-ethylhexanoate; C14 alkanes, chlorinated-, (chlorinated paraffin))
<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**

<b>Revision Date</b>	04/22/2021
<b>Initial Date</b>	01/31/2020

**CONTACT POINT**

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

**SDS Version Summary**

Version	Date of Update	Sections Updated
0.2.2.1	04/22/2021	Chronic Health, Disposal, Fire Fighter (fire/explosion hazard), Handling Procedure, Physical Properties, Storage (storage requirement)

**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

Continued...

**Polysset AH-160 HFC2 B-Side**

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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