

Printing date 05/26/2018

Reviewed on 08/04/2017

1 Identification

- **Product identifier**
- **Trade name:** PFR-405 Resin
- **Article number:** 1026031
- **Application of the substance / the mixture** Polyester resin
- **Details of the supplier of the safety data sheet** SikaAxson US - EHS Department
- **Manufacturer/Supplier:**
Company Name: Axson Technologies US, Inc.-SikaAxson

Headquarters:
 31200 Stephenson Hwy
 Madison Heights, MI 48071
 USA

Manufacturing Site:
 1611 Hults Drive
 Eaton Rapids, MI 48827
 USA
 ehs-us@axson.com

- **Information department:** Product safety department
- **Emergency telephone number:**
 During normal opening times: +1 (248) 588-2270
 CHEMTREC 24-hour Emergency: +1 (800) 424-9300

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Flam. Liq. 3 H226 Flammable liquid and vapor.



GHS08 Health hazard

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

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 · **Hazard pictograms**


GHS02 GHS08

 · **Signal word** *Danger*

 · **Hazard-determining components of labeling:**
Phosphate Ester

 · **Hazard statements**
Flammable liquid and vapor.
Causes skin irritation.
Causes serious eye irritation.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.

 · **Precautionary statements**
Avoid breathing dust/fume/gas/mist/vapors/spray
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting/equipment.
Avoid breathing dust/fume/gas/mist/vapors/spray
Wear protective gloves/protective clothing/eye protection/face protection.
[In case of inadequate ventilation] wear respiratory protection.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
If experiencing respiratory symptoms: Call a poison center/doctor.
Dispose of contents/container in accordance with local/regional/national/international regulations.

 · **Classification system:**

 · **NFPA ratings (scale 0 - 4)**

Health = 2
Fire = 2
Reactivity = 0

 · **HMIS-ratings (scale 0 - 4)**

*Health = *2*
Fire = 2
Reactivity = 0

 · **Other hazards**

 · **Results of PBT and vPvB assessment**

 · **PBT:** Not applicable.

 · **vPvB:** Not applicable.

3 Composition/information on ingredients

 · **Chemical characterization:** *Mixtures*

 · **Description:** *Mixture of the substances listed below with nonhazardous additions.*

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· **Dangerous components:**

CAS: 25013-15-4 EINECS: 246-562-2	Vinyl toluene	10-20%
	Phosphate Ester	1-5%
CAS: 91-99-6	N,N-Bishydroxyethyl-m-toluidine	1-5%

4 First-aid measures

- **Description of first aid measures**
- **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.
- **Additional information**
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

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· Protective Action Criteria for Chemicals
· PAC-1:

21645-51-2	aluminium hydroxide	8.7 mg/m ³
112945-52-5	Fumed silica - untreated	18 mg/m ³
13463-67-7	titanium dioxide	30 mg/m ³
64-17-5	ethanol	1,800 ppm
7631-86-9	silicon dioxide, chemically prepared	18 mg/m ³
8052-41-3	Stoddard solvent	300 mg/m ³
130-15-4	1,4-naphthoquinone	0.57 mg/m ³
98-29-3	4-tert-butylcatechol	0.18 mg/m ³
108-10-1	4-methylpentan-2-one	75 ppm
142-82-5	heptane	500 ppm

· PAC-2:

21645-51-2	aluminium hydroxide	73 mg/m ³
112945-52-5	Fumed silica - untreated	100 mg/m ³
13463-67-7	titanium dioxide	330 mg/m ³
64-17-5	ethanol	3300* ppm
7631-86-9	silicon dioxide, chemically prepared	740 mg/m ³
8052-41-3	Stoddard solvent	1,800 mg/m ³
130-15-4	1,4-naphthoquinone	6.3 mg/m ³
98-29-3	4-tert-butylcatechol	2 mg/m ³
108-10-1	4-methylpentan-2-one	500 ppm
142-82-5	heptane	830 ppm

· PAC-3:

21645-51-2	aluminium hydroxide	440 mg/m ³
112945-52-5	Fumed silica - untreated	630 mg/m ³
13463-67-7	titanium dioxide	2,000 mg/m ³
64-17-5	ethanol	15000* ppm
7631-86-9	silicon dioxide, chemically prepared	4,500 mg/m ³
8052-41-3	Stoddard solvent	29500** mg/m ³
130-15-4	1,4-naphthoquinone	38 mg/m ³
98-29-3	4-tert-butylcatechol	560 mg/m ³
108-10-1	4-methylpentan-2-one	3000* ppm
142-82-5	heptane	5000* ppm

7 Handling and storage

· Handling:

· **Precautions for safe handling** Ensure good ventilation/exhaustion at the workplace.

· **Information about protection against explosions and fires:**

Keep ignition sources away - Do not smoke.

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Protect against electrostatic charges.

- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**
 The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.
 At this time, the other constituents have no known exposure limits.

25013-15-4 Vinyl toluene

PEL	Long-term value: 480 mg/m ³ , 100 ppm
REL	Long-term value: 480 mg/m ³ , 100 ppm
TLV	Short-term value: 483 mg/m ³ , 100 ppm Long-term value: 242 mg/m ³ , 50 ppm

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
 Keep away from foodstuffs, beverages and feed.
 Immediately remove all soiled and contaminated clothing.
 Wash hands before breaks and at the end of work.
 Avoid contact with the eyes and skin.
- **Breathing equipment:**
 In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
 Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
 Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product 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.

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- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:**



Tightly sealed goggles

9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

Form: Thixotropic Paste

Color: Light yellow

- **Odor:** Aromatic

- **Odor threshold:** Not determined.

- **pH-value:** Not determined.

- **Change in condition**

Melting point/Melting range: Undetermined.

Boiling point/Boiling range: 170 °C (338 °F)

- **Flash point:** 53 °C (127.4 °F)

- **Flammability (solid, gaseous):** Not applicable.

- **Ignition temperature:** 494 °C (921.2 °F)

- **Decomposition temperature:** Not determined.

- **Auto igniting:** Product is not selfigniting.

- **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

- **Explosion limits:**

Lower: 1.1 Vol %

Upper: 5.2 Vol %

- **Vapor pressure at 20 °C (68 °F):** 1.5 hPa (1.1 mm Hg)

- **Density at 20 °C (68 °F):** 1 g/cm³ (8.35 lbs/gal)

- **Relative density** Not determined.

- **Vapor density** Not determined.

- **Evaporation rate** Not determined.

- **Solubility in / Miscibility with**

Water: Not miscible or difficult to mix.

- **Partition coefficient (n-octanol/water):** Not determined.

- **Viscosity:**

Dynamic at 20 °C (68 °F): 40,000 mPas

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Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	18.2 %
Water:	0.0 %
VOC content:	18.23 %
	182.4 g/l / 1.52 lb/gl
· Solids content:	54.7 %
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:**
?
Carbon monoxide and carbon dioxide

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· LD/LC50 values that are relevant for classification:		
21645-51-2 aluminium hydroxide		
Oral	LD50	>2,000 mg/kg (rat)

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitization:** Sensitization possible through inhalation.
- **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:
Harmful
Irritant

- **Carcinogenic categories**

· IARC (International Agency for Research on Cancer)		
25013-15-4	Vinyl toluene	3
13463-67-7	titanium dioxide	2B
64-17-5	ethanol	1
7631-86-9	silicon dioxide, chemically prepared	3
108-10-1	4-methylpentan-2-one	2B

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 · **NTP (National Toxicology Program)**

130-15-4 | 1,4-naphthoquinone

R

 · **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 3 (Self-assessment): extremely hazardous for water
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Danger to drinking water if even extremely small quantities leak into the ground.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- **UN-Number**
- **DOT, IMDG, IATA** UN1866
- **UN proper shipping name**
- **DOT** Resin solution
- **IMDG** RESIN SOLUTION (1,4-dihydroxybenzene), MARINE POLLUTANT
- **IATA** RESIN SOLUTION

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· **Transport hazard class(es)**

· **DOT**



· **Class** 3 Flammable liquids
· **Label** 3

· **IMDG**



· **Class** 3 Flammable liquids
· **Label** 3

· **IATA**



· **Class** 3 Flammable liquids
· **Label** 3

· **Packing group**
· **DOT, IMDG, IATA** III

· **Environmental hazards:** Product contains environmentally hazardous substances: 1,4-dihydroxybenzene
· **Marine pollutant:** Yes
Yes
Symbol (fish and tree)

· **Special precautions for user** Warning: Flammable liquids
· **Danger code (Kemler):** 30
· **EMS Number:** F-E, S-E
· **Stowage Category** A

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

· **Transport/Additional information:**

· **DOT**
· **Quantity limitations** On passenger aircraft/rail: 60 L
On cargo aircraft only: 220 L
· **Remarks:** Special marking with the symbol (fish and tree).

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· IMDG	
· Limited quantities (LQ)	5L
· Excepted quantities (EQ)	Code: E1
	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 1000 ml
· UN "Model Regulation":	UN 1866 RESIN SOLUTION, 3, III

15 Regulatory information

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

· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**

None of the ingredients is listed.

· **TSCA (Toxic Substances Control Act) (Substances not listed):**

All ingredients are listed.

· **Chemicals regulated by TSCA Section 12(b)**

None of the ingredients is listed.

· **Chemical regulated by TSCA 5(a)(2)rule:**

None of the ingredients is listed.

· **TSCA new (21st Century Act) (Substances not listed)**

Phosphate Ester

· **Proposition 65**

· **Chemicals known to cause cancer:**

13463-67-7 titanium dioxide

108-10-1 4-methylpentan-2-one

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

64-17-5 ethanol

108-10-1 4-methylpentan-2-one

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

108-10-1 4-methylpentan-2-one

I

142-82-5 heptane

D

· **TLV (Threshold Limit Value established by ACGIH)**

25013-15-4 Vinyl toluene

A4

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13463-67-7	titanium dioxide	A4
64-17-5	ethanol	A3

· NIOSH-Ca (National Institute for Occupational Safety and Health)

13463-67-7	titanium dioxide
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· Listed in CWC Regulations

None of the ingredients is listed.

· GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).

· Hazard pictograms


GHS02 GHS08

· Signal word *Danger*
· Hazard-determining components of labeling:

Phosphate Ester

· Hazard statements

Flammable liquid and vapor.

Causes skin irritation.

Causes serious eye irritation.

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

· Precautionary statements

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/equipment.

Avoid breathing dust/fume/gas/mist/vapors/spray

Wear protective gloves/protective clothing/eye protection/face protection.

[In case of inadequate ventilation] wear respiratory protection.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

If experiencing respiratory symptoms: Call a poison center/doctor.

Dispose of contents/container in accordance with local/regional/national/international regulations.

· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Date of preparation / last revision 05/26/2018 / 10

· Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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*CAS: Chemical Abstracts Service (division of the American Chemical Society)**NFPA: National Fire Protection Association (USA)**HMIS: Hazardous Materials Identification System (USA)**VOC: Volatile Organic Compounds (USA, EU)**LC50: Lethal concentration, 50 percent**LD50: Lethal dose, 50 percent**PBT: Persistent, Bioaccumulative and Toxic**vPvB: very Persistent and very Bioaccumulative**NIOSH: National Institute for Occupational Safety**OSHA: Occupational Safety & Health**TLV: Threshold Limit Value**PEL: Permissible Exposure Limit**REL: Recommended Exposure Limit**Flam. Liq. 3: Flammable liquids – Category 3**Skin Irrit. 2: Skin corrosion/irritation – Category 2**Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A**Resp. Sens. 1: Respiratory sensitisation – Category 1*

US