

## Per-Fix™ for Nylon

### SECTION 1 - IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

#### 1.1 Product Identifier

Product Name : Per-Fix™ for Nylon  
 Manufacturer Product Number : 5205AA, 5205A, 5205B, 5205C

#### 1.2 Other Means of Identification

Other Identifiers : Flaw Repair

#### 1.3 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

Recommended Use : Touch-up coating for molded plastic parts.  
 Restrictions on Use : None Identified

#### 1.4 Supplier Details

	Manufacturer Details	Supplier Details
Company Name	Chem-Pak Inc	Chem-Pak Inc
Address	242 Corning Way, Martinsburg, WV 25405 - United States	242 Corning Way, Martinsburg, WV 25405 - United States
Phone Number	304-262-1880	304-262-1880
Fax Number	304-262-9643	304-262-9643
Email	msds@chem-pak.com	
Website	http://www.chem-pak.com	

#### 1.5 24 hr Emergency Phone Number

Emergency Number : ChemTel for Mexico: 800-099-0731

### SECTION 2 - HAZARDS IDENTIFICATION

#### 2.1 Classification of the Substance or Mixture

Flam. Aerosol 1	H222	Physical Hazards	Flammable aerosols, Category 1
Eye Irrit. 2a	H319	Health Hazards	Serious eye damage/eye irritation, Category 2A
Repr. 2	H361	Health Hazards	Reproductive toxicity, Category 2
Stot Se 3	H336	Health Hazards	Specific target organ toxicity — Single exposure, Category 3, Narcosis
Stot Re 2	H373	Health Hazards	Specific target organ toxicity — Repeated exposure, Category 2
Asp. Tox. 1	H304	Health Hazards	Aspiration hazard, Category 1
Aquatic Acute 3	H402	Environmental Hazards	Hazardous to the aquatic environment — Acute Hazard, Category 3

#### 2.2 Label Elements

##### Hazard Pictograms



GHS02



GHS07



GHS08

##### Signal Word

**Danger**

##### Hazard Statements

H222 : Extremely flammable aerosol.  
 H304 : May be fatal if swallowed and enters airways.  
 H319 : Causes serious eye irritation.  
 H336 : May cause drowsiness or dizziness.  
 H361 : Suspected of damaging fertility or the unborn child.  
 H373 : May cause damage to organs through prolonged or repeated exposure.  
 H402 : Harmful to aquatic life

##### Precautionary Statements

P201 : Obtain special instructions before use.

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P202	: Do not handle until all safety precautions have been read and understood.
P210	: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211	: Do not spray on an open flame or other ignition source.
P251	: Do not pierce or burn, even after use.
P260	: Do not breathe spray.
P264	: Wash hands thoroughly after handling.
P271	: Use only outdoors or in a well-ventilated area.
P273	: Avoid release to the environment.
P280	: Wear protective gloves and eye protection.
P301+P310	: IF SWALLOWED: Immediately call POISON CENTER.
P304+P340	: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313	: If exposed or concerned: Get medical advice/attention
P312	: Call physician if you feel unwell.
P314	: Get medical advice/attention if you feel unwell.
P331	: Do NOT induce vomiting.
P337+P313	: If eye irritation persists: Get medical advice/attention.
P403+P233	: Store in a well-ventilated place. Keep container tightly closed.
P405	: Store locked up.
P410+P412	: Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.
P501	: Dispose of contents/container to applicable regulations

### 2.3 Other Hazards Which Do Not Result In Classification

Hazards Not Otherwise Classified : None Identified.

## SECTION 3 - COMPOSITION / INFORMATION ON INGREDIENTS

### 3.1 Substance / Mixture

Substance / Mixture : Mixture

### 3.2 Composition

Substance name	CAS Number	% wt*	Classification
Dimethyl Ether	115-10-6	30 - 60	Flam. Gas 1, H220 Press. Gas (Diss.), H280
Methyl Ethyl Ketone	78-93-3	10 - 30	Flam. Liq. 2, H225 Eye Irrit. 2A, H319 STOT SE 3, H336
Xylene	1330-20-7	10 - 30	Flam. Liq. 3, H226 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 Asp. Tox. 1, H304 Aquatic Acute 2, H401
Toluene	108-88-3	5 - 10	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Repr. 2, H361 STOT SE 3, H336 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Acute 2, H401
N-Butyl Acetate	123-86-4	5 - 10	Flam. Liq. 2, H225 STOT SE 3, H336 Aquatic Acute 3, H402
Propane	74-98-6	5 - 10	Flam. Gas 1, H220 Press. Gas (Diss.), H280

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Substance name	CAS Number	% wt*	Classification
Ethylbenzene	100-41-4	2.13	Flam. Liq. 2, H225 Acute Tox. 4 (Inhalation), H332 Acute Tox. 4 (Inhalation:vapour), H332 Carc. 2, H351 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Acute 2, H401
Ethyl 3-Ethoxypropionate	763-69-9	1 - 5	Flam. Liq. 3, H226 Aquatic Acute 3, H402
Ethyl Acetate	141-78-6	1 - 5	Flam. Liq. 2, H225 Eye Irrit. 2A, H319 STOT SE 3, H336
Methyl Acetate	79-20-9	1 - 5	Flam. Liq. 2, H225 Eye Irrit. 2A, H319 STOT SE 3, H336

Full text of hazard classes and H-statements : see section 16

\*Chemical name, CAS number and/or exact concentration have been withheld as a trade secret

## SECTION 4 - FIRST-AID MEASURES

### 4.1 Description of First-Aid Measures

<b>General Measures</b>	: Call a physician immediately.
<b>Inhalation</b>	: Remove person to fresh air and keep comfortable for breathing.
<b>Skin Contact</b>	: Wash skin with plenty of water. Take off contaminated clothing. If skin irritation occurs: Get medical advice/attention.
<b>Eye Contact</b>	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
<b>Ingestion</b>	: Do not induce vomiting. Call a physician immediately.
<b>First-Aid Responder Protection</b>	: Wear adequate personal protective equipment based on the nature and severity of the emergency.

### 4.2 Most Important Symptoms and Effects, Both Acute and Delayed

<b>Symptoms of Exposure</b>	: Eye Irritation, Nose Irritation, Throat Irritation, Dermatitis, Confusion, Skin Irritation, Headache, Dizziness, Nausea, Narcosis, Upper Respiratory Tract Irritation, Drowsiness, Vomiting, Optical Nerve Damage, Cough, Chest Tightness, Mucous Membrane, Diarrhea.
<b>Delayed Effects</b>	: No known delayed effects.
<b>Immediate Effects</b>	: No known immediate effects.
<b>Chronic Effects</b>	: Repeated or prolonged contact may cause skin sensitization.
<b>Target Organs</b>	: Central Nervous System, Eyes, Liver, Nasal Cavity, Reproductive System, Respiratory System, Skin, Kidneys.

### 4.3 Indication of Immediate Medical Attention and Special Treatment

<b>Notes to Physician</b>	: Treat symptomatically.
<b>Specific Treatments/Antidotes</b>	: No Information Available.
<b>Medical Conditions Aggravated</b>	: May aggravate personnel with pre-existing disorders associated with any of the Target Organs.

## SECTION 5 - FIRE-FIGHTING MEASURES

### 5.1 Suitable Extinguishing Media

<b>Extinguishing Media</b>	: Water, carbon dioxide, dry chemical, universal aqueous film forming foam.
<b>Unsuitable Media</b>	: Water jet.

### 5.2 Specific Hazards Arising from the Chemical or Mixture

<b>Hazardous Combustion Products</b>	: Decomposition products may include: oxides of carbon, smoke, vapours. See also Section 10.6.
<b>Specific Hazards During Firefighting</b>	: Extremely flammable. Contents under pressure. In a fire or if heated, a pressure increase will occur which may result in container bursting. Vapours heavier than air may spread along the ground and travel to an ignition source.



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## 5.3 Special Protective Actions for Fire-Fighters

- Firefighting Instructions** : Use water spray to cool fire exposed aerosol containers, as contents can rupture violently from heat developed pressure.
- Protection during Firefighting** : Firemen should wear self-contained breathing apparatus with full face-piece operated in positive pressure mode.

## SECTION 6 - ACCIDENTAL RELEASE MEASURES

### 6.1 Personal Precautions, Protective Equipment and Emergency Procedures

- For Non-Emergency Personnel** : No action should be taken involving any personnel without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spill. Remove ignition sources and provide adequate ventilation only if it is safe to do so.
- For Emergency Personnel** : Use personal protection as recommended in Section 8. Observe precautions provided for non-emergency personnel above.

### 6.2 Environmental Precautions

- Environmental Precautions** : Keep out of drains, sewers, ditches, and waterways. Minimize use of water to prevent environmental contamination.

### 6.3 Methods and Materials for Containment and Cleaning up

- Containment Procedures** : Product is an aerosol, therefore spills and leaks are unlikely. In case of rupture, released content may be contained with oil/solvent absorbent pads, socks, and/or absorbents.
- Cleanup Procedures** : Spills from aerosol cans are unlikely and are generally of small volume. Large spills are therefore not normally considered a problem. In case of actual rupture, avoid breathing vapors and ventilate area well. Remove sources of ignition and use non-sparking equipment. Soak up material with inert absorbent and place in safety containers for proper disposal.
- Other Information** : Aerosol products represent a limited hazard and will not spill or leak unless ruptured. In case of rupture contents are generally evacuated from the can rapidly. Area should be ventilated immediately and continuous ventilation provided until all fumes and vapors have been removed. Aerosol cans should never be incinerated or burned.
- Prohibited Materials** : Combustible absorbent material such as sawdust. Use of equipment that may cause sparking.

## SECTION 7 - HANDLING AND STORAGE

### 7.1 Precautions for Safe Handling

- General Handling Precautions** : KEEP OUT OF THE REACH OF CHILDREN. Avoid prolonged or repeated skin contact. Avoid breathing of vapors. Do not incinerate (burn) containers. Always replace overcap when not in use. Avoid use around open flames or other sources of ignition. Exposure to heat or prolonged exposure to sun may cause can to burst. Use only with adequate ventilation, opening doors or windows to achieve cross-ventilation.
- Hygiene Recommendations** : Do not eat, drink or smoke when using this product. Wash hands thoroughly after use. Remove contaminated clothing and protective equipment before entering eating or smoking areas.

### 7.2 Conditions for Safe Storage Including Any Incompatibilities

- Storage Requirements** : Storage of individual cans should be done in an area below 55°C (120 °F), and away from heat sources. Ensure can is in a secure place to prevent knocking over and accidental rupture.
- Incompatibilities** : Segregate storage away from materials indicated in Section 10.

## SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control Parameters

#### Propane (74-98-6)

NOM-010-STPS-2014	VLE-CT (ppm)	1000 ppm
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#### Xylene (1330-20-7)

NOM-010-STPS-1999	LMPE-PPT (mg/m <sup>3</sup> )	435 mg/m <sup>3</sup>
NOM-010-STPS-1999	LMPE-PPT (ppm)	100 ppm
NOM-010-STPS-1999	LMPE-CT (mg/m <sup>3</sup> )	655 mg/m <sup>3</sup>



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<b>Xylene (1330-20-7)</b>		
NOM-010-STPS-1999	LMPE-CT (ppm)	150 ppm
NOM-010-STPS-2014	VLE-PPT (ppm)	150 ppm
NOM-010-STPS-2014	VLE-CT (ppm)	100 ppm
USA (ACGIH)	ACGIH TWA (mg/m <sup>3</sup> )	100 ppm
USA (ACGIH)	ACGIH Ceiling (mg/m <sup>3</sup> )	150 ppm
Biological Exposure Index	Methylhippuric Acid in Urine (Post Shift), End of shift	1.5 g/g creatinine

<b>Ethylbenzene (100-41-4)</b>		
NOM-010-STPS-1999	LMPE-PPT (mg/m <sup>3</sup> )	435 mg/m <sup>3</sup>
NOM-010-STPS-1999	LMPE-PPT (ppm)	100 ppm
NOM-010-STPS-1999	LMPE-CT (mg/m <sup>3</sup> )	435 mg/m <sup>3</sup>
NOM-010-STPS-1999	LMPE-CT (ppm)	125 ppm
USA (ACGIH)	ACGIH TWA (mg/m <sup>3</sup> )	20 ppm
Biological Exposure Index	Sum of Mandelic Acid and Phenyl Glyoxylic Acid in Urine, End of shift at end of workweek	0.7 g/g creatinine

<b>N-Butyl Acetate (123-86-4)</b>		
NOM-010-STPS-1999	LMPE-PPT (mg/m <sup>3</sup> )	710 mg/m <sup>3</sup>
NOM-010-STPS-1999	LMPE-PPT (ppm)	150 ppm
NOM-010-STPS-1999	LMPE-CT (mg/m <sup>3</sup> )	950 mg/m <sup>3</sup>
NOM-010-STPS-1999	LMPE-CT (ppm)	200 ppm
NOM-010-STPS-2014	VLE-PPT (ppm)	200 ppm
NOM-010-STPS-2014	VLE-CT (ppm)	150 ppm
USA (ACGIH)	ACGIH TWA (mg/m <sup>3</sup> )	150 ppm
USA (ACGIH)	ACGIH Ceiling (mg/m <sup>3</sup> )	200 ppm

<b>Toluene (108-88-3)</b>		
NOM-010-STPS-1999	LMPE-PPT (mg/m <sup>3</sup> )	188 mg/m <sup>3</sup>
NOM-010-STPS-1999	LMPE-PPT (ppm)	50 ppm
NOM-010-STPS-2014	VLE-CT (ppm)	20 ppm
USA (ACGIH)	ACGIH TWA (mg/m <sup>3</sup> )	20 ppm
USA (ACGIH)	ACGIH Ceiling (mg/m <sup>3</sup> )	150 ppm
Biological Exposure Index	Toluene in blood, Prior to last shift of workweek	0.02 mg/l
Biological Exposure Index	Toluene in urine, End of shift	0.03 mg/l
Biological Exposure Index	o-Cresol in urine (with hydrolysis), End of shift (B)	0.3 mg/g creatinine

<b>Ethyl Acetate (141-78-6)</b>		
NOM-010-STPS-1999	LMPE-PPT (mg/m <sup>3</sup> )	1400 mg/m <sup>3</sup>
NOM-010-STPS-1999	LMPE-PPT (ppm)	400 ppm
NOM-010-STPS-2014	VLE-CT (ppm)	400 ppm
USA (ACGIH)	ACGIH TWA (mg/m <sup>3</sup> )	400 ppm

<b>Methyl Acetate (79-20-9)</b>		
NOM-010-STPS-1999	LMPE-PPT (mg/m <sup>3</sup> )	610 mg/m <sup>3</sup>
NOM-010-STPS-1999	LMPE-PPT (ppm)	200 ppm
NOM-010-STPS-1999	LMPE-CT (mg/m <sup>3</sup> )	760 mg/m <sup>3</sup>
NOM-010-STPS-1999	LMPE-CT (ppm)	250 ppm
NOM-010-STPS-2014	VLE-PPT (ppm)	250 ppm
NOM-010-STPS-2014	VLE-CT (ppm)	200 ppm
USA (ACGIH)	ACGIH TWA (mg/m <sup>3</sup> )	200 ppm
USA (ACGIH)	ACGIH Ceiling (mg/m <sup>3</sup> )	250 ppm

<b>Methyl Ethyl Ketone (78-93-3)</b>		
NOM-010-STPS-1999	LMPE-PPT (mg/m <sup>3</sup> )	590 mg/m <sup>3</sup>
NOM-010-STPS-1999	LMPE-PPT (ppm)	200 ppm
NOM-010-STPS-1999	LMPE-CT (mg/m <sup>3</sup> )	885 mg/m <sup>3</sup>
NOM-010-STPS-1999	LMPE-CT (ppm)	300 ppm
NOM-010-STPS-2014	VLE-PPT (ppm)	300 ppm
NOM-010-STPS-2014	VLE-CT (ppm)	200 ppm
USA (ACGIH)	ACGIH TWA (mg/m <sup>3</sup> )	200 ppm
USA (ACGIH)	ACGIH Ceiling (mg/m <sup>3</sup> )	300 ppm
Biological Exposure Index	MEK in Urine, End of shift	2 mg/l

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### 8.2 Exposure Controls

- Engineering Measures** : Use only with adequate ventilation. General ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. Local exhaust ventilation or an enclosed handling system may be necessary to control air contamination below that of the lowest OEL from the table above.
- Personal Protective Equipment**
- Eye / Face Protection** : Safety glasses with side shields are recommended as a minimum for any type of industrial chemical handling. Where eye contact with this material could occur, chemical splash proof goggles are recommended.
- Hand Protection** : Chemical-resistant gloves, tested according to EN 374.
- Remarks** : Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to the place of work.
- Skin and Body Protection** : For brief contact, no precautions other than clean body-covering clothing should be needed. When prolonged or repeated contact could occur, use protective clothing impervious to the ingredients listed in Section 2.
- Respiratory Protection** : An approved respirator with an organic vapor cartridge may be permissible under certain circumstances where airborne concentrations are expected to exceed occupational exposure limits.
- Compliance** : If needed, wear an appropriate NIOSH approved respirator.
- Other Protective Equipment** : Safety showers and eye-wash stations should be available in the workplace near where the material will be used.
- Environmental Exposure Controls** : Avoid release to the environment.

## SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Physical Properties

Boiling Point	> 56.90 °C	Melting / Freezing Point	> -108.00 °C
Flash Point, Liquid	> -20.00 °C	Flash Point, Propellant	> -104.40 °C
Explosive Limits	LEL: 0.80 UEL: 24.60 vol %	Autoignition Temperature, Liquid	<= 190.00 °C
Flammability	Extremely Flammable Aerosol	Density	0.779 g/cm <sup>3</sup>
Molecular Weight	Not Available	Weight	6.501 lbs/gal
Vapor Pressure	Not Available	pH	Not Available
Vapor Density	Not Available	Evaporation Rate (nBac=1)	Not Available
Viscosity	Not Available	Partition Coefficient (Log Pow)	Not Available
Odor Threshold	Not Available	Refractive Index	Not Available
Physical State	Pressurized Product	Heat Of Combustion	12617.73 BTU/lb
Appearance / Color	Clear, Colourless	Water Solubility	Not Available
Odor	Paint-like	Decomposition Temperature	Not Available

### 9.2 Environmental Properties

Percent Volatile	90.02 % wt	VOC Regulatory	2.06 g/L (0.02 lbs/gal)
Percent VOC	88.28 % wt	VOC Actual	687.68 g/L (5.74 lbs/gal)
Percent HAP	39.75 % wt	HAP Content	309.65 g/L (2.58 lbs/gal)
Global Warming Potential	0.71 GWP	Maximum Incremental Reactivity	2.0380 g O3/g
Ozone Depletion Potential	0.00 ODP		

## SECTION 10 - STABILITY AND REACTIVITY

### 10.1 Reactivity

**Reactivity** : No specific test data related to reactivity is available for this products or its ingredients.

### 10.2 Chemical Stability

**Chemical Stability** : This product is stable.

### 10.3 Possibility of Hazardous Reactions

**Hazardous Reactions** : Under normal conditions of storage and use, hazardous reactions are not expected to occur.



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### 10.4 Conditions to Avoid

Conditions to Avoid : Electrostatic Discharge, Other Ignition Sources, Temperatures above 140°F (60°C), Hot Surfaces, Heat, Flames, Sparks, Strong Heating.

### 10.5 Incompatible Materials

Materials to Avoid : Strong Oxidizing Agents, Strong Reducing Agents, Alkali Metals, Strong Acids, Aluminum, Potassium t-Butoxide, Halogen Compounds, Bases, Calcium Hypochlorite, Acids, Hydrogen Peroxide, Magnesium, Sulfuric Acid, Perchloric Acid, Nitrating Agents, Chlorosulfuric Acid, Potassium Chlorate, Heavy Metals and their Salts, Phenols, Performic Acid.

### 10.6 Hazardous Decomposition Products

Thermal Decomposition : Oxides of carbon, Aldehydes, Methanol, Acetic Acid, Peroxybenzoic Acid, Benzoic Acid.

## SECTION 11 - TOXICOLOGICAL INFORMATION

### 11.1 Information on Toxicological Effects

#### Propane (CAS: 74-98-6 / EC: 200-827-9)

LC50 Inhalation (Rat) 658 mg/l/4h (Lit.)

#### Dimethyl Ether (CAS: 115-10-6 / EC: 204-065-8)

LC50 Inhalation (Rat) 164000 ppm/4h (RTECS)

#### Xylene (CAS: 1330-20-7 / EC: 215-535-7)

LD50 Oral (Rat) 4300 mg/kg (RTECS)  
LD50 Dermal (Rabbit) 12126 mg/kg (Sigma-Aldrich)  
LC50 Inhalation (Rat) 21.7 mg/l/4h (GESTIS Substance Database)  
LC50 Inhalation (Rat) 6700 ppm/4h (ChemInfo)

#### Ethylbenzene (CAS: 100-41-4 / EC: 202-849-4)

LD50 Oral (Rat) 4720 mg/kg (ChemInfo)  
LD50 Dermal (Rabbit) 15380 mg/kg (ChemInfo)  
LC50 Inhalation (Rat) 17.2 mg/l/4h (IUCLID)  
LC50 Inhalation (Rat) 4000 ppm/4h (ChemInfo)

#### N-Butyl Acetate (CAS: 123-86-4 / EC: 204-658-1)

LD50 Oral (Rat) 13100 mg/kg (IUCLID)  
LD50 Dermal (Rabbit) > 14100 mg/kg (IUCLID)  
LC50 Inhalation (Rat) > 21 mg/l/4h (IUCLID)  
LC50 Inhalation (Rat) 390 ppm/4h (RTECS)

#### Ethyl 3-Ethoxypropionate (CAS: 763-69-9 / EC: 212-112-9)

LD50 Oral (Rat) 5000 mg/kg (RTECS)  
LD50 Dermal (Rabbit) 9490 mg/kg (ChemInfo)  
LC50 Inhalation (Rat) > 2404 ppm/4h (ChemInfo)

#### Toluene (CAS: 108-88-3 / EC: 203-625-9)

LD50 Oral (Rat) > 2000 mg/kg (Lit.)  
LD50 Dermal (Rabbit) 12124 mg/kg (IUCLID)  
LC50 Inhalation (Rat) > 20 mg/l/4h (Lit.)

#### Ethyl Acetate (CAS: 141-78-6 / EC: 205-500-4)

LD50 Oral (Rat) 5620 mg/kg (RTECS)  
LD50 Dermal (Rabbit) > 18000 mg/kg (Sigma-Aldrich)  
LC50 Inhalation (Rat) 10600 ppm/4h (ChemInfo)

#### Methyl Acetate (CAS: 79-20-9 / EC: 201-185-2)

LD50 Oral (Rat) 6970 mg/kg (Lit.)  
LD50 Dermal (Rabbit) > 5000 mg/kg (RTECS)  
LC50 Inhalation (Rat) > 49.28 mg/l/4h (External SDS)

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### Methyl Acetate (CAS: 79-20-9 / EC: 201-185-2)

LC50 Inhalation (Rat) 16000 - 32000 (ChemInfo)

### Methyl Ethyl Ketone (CAS: 78-93-3 / EC: 201-159-0)

LD50 Oral (Rat) 2737 mg/kg (Sigma-Aldrich)

LD50 Dermal (Rabbit) 6480 mg/kg (RTECS)

LC50 Inhalation (Rat) 205 mg/l/4h (ChemInfo)

LC50 Inhalation (Rat) 30200 ppm/4h (ChemInfo)

**Routes Of Exposure** : Eye Contact, Ingestion, Skin Contact, Inhalation, Skin Absorption.

**Delayed and Immediate Effects and Also Chronic Effects from Short and Long Term Exposure** : See Section 4.2

**Skin Corrosion/Irritation** : Causes skin irritation.

**Eye Damage/Irritation** : Causes serious eye irritation.

**Respiratory or Skin Sensitization** : Not classified

**Germ Cell Mutagenicity** : Not classified

**Reproductive Toxicity** : Suspected of damaging fertility or the unborn child.

**STOT-Single Exposure** : May cause drowsiness or dizziness.

**STOT-Repeated Exposure** : May cause damage to organs through prolonged or repeated exposure.

**Aspiration Hazard** : May be fatal if swallowed and enters airways.

**Vaporizer** : Aerosol

**Carcinogen Data** : The following ingredients are listed as known or suspected carcinogens:

### Ethylbenzene (CAS: 100-41-4 / EC: 202-849-4)

IARC group 2B - Possibly carcinogenic to humans

ACGIH Category A3 - Confirmed animal carcinogen with unknown relevance to humans

## SECTION 12 - ECOLOGICAL INFORMATION

### 12.1 Ecotoxicity and Ecological Properties

#### Propane (74-98-6)

Persistence and Degradability Readily biodegradable in water. Not applicable (gas). Photodegradation in the air.

BCF Fish 9 - 25 (BCF)

Log Pow 2.28 (Calculated)

Bioaccumulative Potential Low potential for bioaccumulation (Log Kow < 4).

#### Dimethyl Ether (115-10-6)

Persistence and Degradability Biodegradability 7% / 28 days.

Log Pow 0.1 (Experimental value; 0.07; QSAR; KOWWIN; 25 °C)

Bioaccumulative Potential Low potential for bioaccumulation (Log Kow < 4).

#### Xylene (1330-20-7)

LC50 Fish 26.7 mg/l Fathead Minnow - 96h

EC50 Daphnia 75.49 mg/l Water Flea - 48hr

EC50 Other Aquatic Organisms 72 mg/l Green Algae - 14d

Persistence and Degradability Readily biodegradable in water.

Biochemical Oxygen Demand 1.40 - 2.53 g O<sub>2</sub>/g substance

Chemical Oxygen Demand 2.56 - 2.91 g O<sub>2</sub>/g substance

Theoretical Oxygen Demand 3.1 g O<sub>2</sub>/g substance

BCF Fish 14.1 - 24 (BCF)

Log Pow 3.217

Bioaccumulative Potential Low potential for bioaccumulation (BCF < 500).

Log Koc 3.156

#### Ethylbenzene (100-41-4)

LC50 Fish 4.2 mg/l Rainbow Trout - 96hr

EC50 Daphnia 2.4 mg/l Water Flea - 48hr

EC50 Other Aquatic Organisms 9.68 mg/l Bacteria - 30min

EC50 Other Aquatic Organisms 4.6 mg/l Green Algae - 72hr



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### Ethylbenzene (100-41-4)

Persistence and Degradability	Readily biodegradable in water. Biodegradable in the soil. Low potential for absorption in soil.
Biochemical Oxygen Demand	1.44 g O <sub>2</sub> /g substance
Chemical Oxygen Demand	2.1 g O <sub>2</sub> /g substance
Theoretical Oxygen Demand	3.17 g O <sub>2</sub> /g substance
Biodegradation	81 % 28 Days
BCF Fish	1.18
Log Pow	3.15
Bioaccumulative Potential	Low potential for bioaccumulation (BCF < 500).
Log Koc	2.4

### n-Butyl Acetate (123-86-4)

LC50 Fish	62 mg/l Golden Orfe - 96hr
LC50 Fish	18 mg/l Fathead Minnow - 96h
EC50 Daphnia	72.8 mg/l Water Flea - 24hr
EC50 Other Aquatic Organisms	675 mg/l Green Algae - 72hr
EC50 Other Aquatic Organisms	959 mg/l Bacteria - 18hr
Persistence and Degradability	Biodegradability 88% / 28 days.
Biochemical Oxygen Demand	520 mg/g
Chemical Oxygen Demand	2320 mg/g
Theoretical Oxygen Demand	2207 mg/g
Log Pow	1.804
Log Koc	2.35

### Ethyl 3-Ethoxypropionate (763-69-9)

LC50 Fish	55.3 mg/l Fathead Minnow - 96h
EC50 Daphnia	785 mg/l Water Flea - 48hr
EC50 Other Aquatic Organisms	> 114.86 mg/l Green Algae - 72hr
Persistence and Degradability	Readily biodegradable in water.
Log Pow	1.25 (Calculated)
Bioaccumulative Potential	Low potential for bioaccumulation (Log Kow < 4).

### Toluene (108-88-3)

LC50 Fish	5.8 mg/l Rainbow Trout - 96hr
LC50 Other Aquatic Organisms	10 mg/l Green Algae - 72hr
EC50 Daphnia	6 mg/l Water Flea - 48hr
Persistence and Degradability	Readily biodegradable in water. Biodegradable in the soil. Low potential for absorption in soil.
Biochemical Oxygen Demand	2.15 g O <sub>2</sub> /g substance
Chemical Oxygen Demand	2.52 g O <sub>2</sub> /g substance
Theoretical Oxygen Demand	3.13 g O <sub>2</sub> /g substance
Biodegradation	86 % 28 Days
Log Pow	2.73 (Experimental Value)
Bioaccumulative Potential	Low potential for bioaccumulation (BCF < 500).
Log Koc	2.15

### Ethyl Acetate (141-78-6)

LC50 Fish	450 - 600 mg/l Rainbow Trout - 96hr
LC50 Fish	220 - 250 mg/l Fathead Minnow - 96h
LC50 Other Aquatic Organisms	560 mg/l Water Flea - 48hr
EC50 Daphnia	2300 - 3090 mg/l Water Flea - 24hr
EC50 Other Aquatic Organisms	4300 mg/l Green Algae - 24hr
Persistence and Degradability	Readily biodegradable in water. Biodegradable in the soil. Low potential for adsorption in soil.
Biochemical Oxygen Demand	0.293 g O <sub>2</sub> /g substance
Chemical Oxygen Demand	1.69 g O <sub>2</sub> /g substance
Theoretical Oxygen Demand	1.82 g O <sub>2</sub> /g substance
Biodegradation	100 % 28 Days
BCF Fish	30
Log Pow	0.73
Bioaccumulative Potential	Low potential for bioaccumulation (BCF < 500).
Log Koc	0.778

## Per-Fix™ for Nylon

Methyl Acetate (79-20-9)	
LC50 Fish	250 - 350 mg/l Zebra Fish - 96hr
EC50 Daphnia	1026.7 mg/l Water Flea - 48hr
EC50 Other Aquatic Organisms	> 120 mg/l Green Algae - 72hr
EC50 Other Aquatic Organisms	6100 mg/l Bacteria - 30min
Persistence and Degradability	Readily biodegradable in water. Inherently biodegradable. Highly mobile in soil.
Chemical Oxygen Demand	1511.8 mg/g
Theoretical Oxygen Demand	1510 mg/g
Biodegradation	70 % 28 Days
BCF Fish	< 1 (BCF)
Log Pow	0.18
Bioaccumulative Potential	Low potential for bioaccumulation (BCF < 500).
Log Koc	0.68

Methyl Ethyl Ketone (78-93-3)	
LC50 Fish	3130 - 3320 mg/l Fathead Minnow - 96h
EC50 Daphnia	7060 mg/l Water Flea - 24hr
Persistence and Degradability	Readily biodegradable in water. Biodegradable in the soil. Biodegradable in the soil under anaerobic conditions.
Biochemical Oxygen Demand	2.03 g O <sub>2</sub> /g substance
Chemical Oxygen Demand	2.31 g O <sub>2</sub> /g substance
Theoretical Oxygen Demand	2.44 g O <sub>2</sub> /g substance
Log Pow	0.3 (Experimental value; OECD 117: Partition Coefficient (n-octanol/water), HPLC method; 40 °C)
Bioaccumulative Potential	Low potential for bioaccumulation (Log Kow < 4).
Log Koc	Koc,34; Calculated value

## SECTION 13 - DISPOSAL CONSIDERATIONS

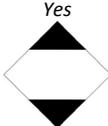
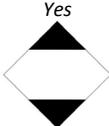
13.1 Waste Treatment Methods	
Waste Disposal	: Characteristics and waste stream classification can change with product use and location. It is the responsibility of the user to determine the proper storage, transportation, treatment, and/or disposal methodologies for spent materials and residues at the time of disposition. All waste must be disposed of in compliance with the respective national, federal, state, and/or local regulations.
Waste Disposal Of Packaging	: Consult with your local landfill to determine if empty small containers can be disposed of along with regular trash pickup. For disposal of large containers (typically 10 gallons or larger), or for containers not suitable for landfill, a licensed reconditioner should be used.
Landfill Precautions	: Not Available.
Incineration Precautions	: ** DO NOT INCINERATE ** CONTENTS UNDER PRESSURE **.

## SECTION 14 - TRANSPORTATION INFORMATION

14.1 UN Number	NOM-002-SLT (MEXICO)	IATA (AIR)	IMDG (OCEAN)
UN Number	: UN1950	UN1950	UN1950
14.2 UN Proper Shipping Name	NOM-002-SLT (MEXICO)	IATA (AIR)	IMDG (OCEAN)
UN Proper Shipping Name	: Aerosols, Limited Quantity	Aerosols, Flammable, Limited Quantity	Aerosols, Limited Quantity
14.3 Transport Hazard Class(es)	NOM-002-SLT (MEXICO)	IATA (AIR)	IMDG (OCEAN)
Transport Hazard Class(es)	: 2.1	2.1	2.1
Labels	: None	2.1 - Flammable gas	None



## Per-Fix™ for Nylon

<b>Limited Quantity</b>	:	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>Yes</p>  </div> <div style="text-align: center;"> <p>Yes</p>  </div> <div style="text-align: center;"> <p>Yes</p>  </div> </div>
<b>EmS Code</b>	:	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>Not Applicable</p> </div> <div style="text-align: center;"> <p>Not Applicable</p> </div> <div style="text-align: center;"> <p>F-D, S-U</p> </div> </div>

<b>14.4 Packing Group</b>	<b>NOM-002-SLT (MEXICO)</b>	<b>IATA (AIR)</b>	<b>IMDG (OCEAN)</b>
Packing Group	None	None	None

<b>14.5 Environmental Hazards</b>	<b>IATA (AIR)</b>	<b>IMDG (OCEAN)</b>
Marine Pollutant	No	No

<b>14.6 Special Precautions</b>	
Precautions	None Identified

<b>14.7 Transport in Bulk According to Annex II of Marpol and the IBC Code</b>	
Remarks	Not applicable for product as supplied

## SECTION 15 - REGULATORY INFORMATION

<b>15.1 Safety, Health and Environmental Regulations Specific to the Product</b>	
TSCA Inventory (United States)	: All chemical substances in this product are either listed on the Toxic Substances Control Act (TSCA) Inventory or are in compliance with a TSCA Inventory exemption.
INSQ Inventory (Mexico)	: To the best of our knowledge, all chemical substances in this product are listed on the National Inventory of Chemical Substances of Mexico.

## SECTION 16 - OTHER INFORMATION

<b>Indication of changes</b>	:	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr style="background-color: #e6f2ff;"> <th style="text-align: left;">Section</th> <th style="text-align: left;">Changed item</th> <th style="text-align: left;">Change</th> </tr> </thead> <tbody> <tr><td>1</td><td>Supersedes</td><td>Modified</td></tr> <tr><td>1</td><td>Revision date</td><td>Modified</td></tr> <tr><td>1</td><td>SDS ID</td><td>Modified</td></tr> <tr><td>2.1</td><td>GHS-US classification</td><td>Modified</td></tr> <tr><td>2.2</td><td>Hazard statements (GHS US)</td><td>Modified</td></tr> <tr><td>2.2</td><td>Precautionary statements (GHS US)</td><td>Modified</td></tr> <tr><td>3</td><td>Composition/information on ingredients</td><td>Modified</td></tr> <tr><td>4</td><td>Symptoms/effects after ingestion</td><td>Modified</td></tr> <tr><td>4</td><td>Symptoms/effects after skin contact</td><td>Modified</td></tr> <tr><td>4.1</td><td>First-aid measures general</td><td>Modified</td></tr> <tr><td>4.1</td><td>First-aid measures after ingestion</td><td>Modified</td></tr> <tr><td>4.1</td><td>First-aid measures after skin contact</td><td>Modified</td></tr> <tr><td>6</td><td>For containment</td><td>Added</td></tr> <tr><td>7.1</td><td>Hygiene measures</td><td>Modified</td></tr> <tr><td>9</td><td>Boiling point</td><td>Modified</td></tr> <tr><td>9</td><td>Explosive limits (vol %)</td><td>Modified</td></tr> <tr><td>9</td><td>Flash point</td><td>Modified</td></tr> <tr><td>9</td><td>Relative vapour density at 20 °C</td><td>Added</td></tr> <tr><td>9</td><td>Auto-ignition temperature</td><td>Modified</td></tr> <tr><td>9</td><td>Colour</td><td>Added</td></tr> <tr><td>9</td><td>Appearance</td><td>Added</td></tr> <tr><td>12.1</td><td>Ecology - general</td><td>Modified</td></tr> <tr><td>16</td><td>Abbreviations and acronyms</td><td>Added</td></tr> </tbody> </table>	Section	Changed item	Change	1	Supersedes	Modified	1	Revision date	Modified	1	SDS ID	Modified	2.1	GHS-US classification	Modified	2.2	Hazard statements (GHS US)	Modified	2.2	Precautionary statements (GHS US)	Modified	3	Composition/information on ingredients	Modified	4	Symptoms/effects after ingestion	Modified	4	Symptoms/effects after skin contact	Modified	4.1	First-aid measures general	Modified	4.1	First-aid measures after ingestion	Modified	4.1	First-aid measures after skin contact	Modified	6	For containment	Added	7.1	Hygiene measures	Modified	9	Boiling point	Modified	9	Explosive limits (vol %)	Modified	9	Flash point	Modified	9	Relative vapour density at 20 °C	Added	9	Auto-ignition temperature	Modified	9	Colour	Added	9	Appearance	Added	12.1	Ecology - general	Modified	16	Abbreviations and acronyms	Added
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## SAFETY DATA SHEET

Part No. See Section 1.1 (Aerosol)

Print Date: 08/07/2019  
Revision Date: 08/07/2019  
Supersedes Date: 03/15/2015  
Issue Date: 03/15/2015  
Version: 2.0 (EN)-MX  
Page: 12/12

Per-Fix™ for Nylon

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