

MSDS Pro-fax PD626 Page 1 of 10

# MATERIAL SAFETY DATA SHEET

×

MSDS Ref. No: PD626 Date-Revised: 06/03/1998 Revision No: 1

Pro-fax PD626

## 1. PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** Pro-fax PD626

**PRODUCT DESCRIPTION:** Polypropylene Homopolymer Pellets

**MANUFACTURER** 

24 HR. EMERGENCY TELEPHONE NUMBERS

Basell Canada Inc. 339 LaSalle Road Corunna, Ontario NON 1G0

**Emergency Phone:** (613) 996-6666

Contact: CANUTEC

Product Stewardship: 519-481-1111

Basell USA Inc. Three Little Falls Centre 2801 Centerville Road P.O. Box 15439 Wilmington, DE 19850-5439

**Contact: CHEMTREC** 

Product Stewardship: 302-996-6000

**Emergency Phone:** (800) 424-9300

# 2. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name Wt.% CAS# EINECS#

Polypropylene homopolymer >95  $\frac{9003-}{07-0}$ 

Stabilizers (trade secret) <5

### **COMMENTS:**

This product is not considered a hazardous material at temperatures below the melting point as

MSDS Pro-fax PD626 Page 2 of 10

determined by Basell according to the U.S. Occupational Safety and Health Act definitions and regulation, including the Hazard Communication Standard 29 CFR 1910.1200. This product is not considered a controlled substance by Basell according to Canada's WHMIS regulations.

Threshold Limit Values (TLV) or Permissible Exposure Limit (PEL) values are not established. This material is not expected to cause physiologic impairment at low concentration. Until a specific TLV is adopted by ACGIH (American Conference of Governmental Hygienists), or an OSHA (Occupational Safety and Health Administration) PEL standard is issued, Basell suggests that this material be treated as a nuisance dust or particulate in accordance with the recommendations of ACGIH.

## 3. HAZARDS IDENTIFICATION

### **EMERGENCY OVERVIEW**

PHYSICAL APPEARANCE: Translucent to white solid pellets

IMMEDIATE CONCERNS: Spilled material may present a slipping hazard. This product as shipped is not classified as a combustible dust; however, a combustible concentration of dust may occur if fines are suspended in air. Avoid contact with strong oxidizing agents. When working with the material at temperatures above the melting point, the material will begin to decompose producing fumes that can contain carbon dioxide, carbon monoxide, ketones, acrolein, aldehydes and other unidentified organic compounds that come from the breakdown of the material. Adequate room and extruder ventilation should be provided to minimize exposures.

### POTENTIAL HEALTH EFFECTS

EYES: Process vapors may irritate eyes.

SKIN: Exposure to molten resin may cause thermal burns.

**INGESTION:** Not Applicable

INHALATION: Process vapors may cause respiratory tract irritation.

### SIGNS AND SYMPTOMS OF OVEREXPOSURE

EYES: Irritation or redness.

SKIN: Not Applicable

INGESTION: Not Applicable

INHALATION: Irritation of the nose, throat and respiratory tract.

MSDS Pro-fax PD626 Page 3 of 10

### **ACUTE TOXICITY:**

Exposure to process vapors may cause eye and respiratory tract irritation.

### **CHRONIC:**

None Known

### **CARCINOGENICITY:**

None Known

### **MUTAGENICITY:**

None Known

### REPRODUCTIVE TOXICTY

REPRODUCTIVE EFFECTS: None Known

TERATOGENIC EFFECTS: None Known

MEDICAL CONDITIONS AGGRAVATED: None Known

**ROUTES OF ENTRY:** Eye, Inhalation

TARGET ORGAN STATEMENT: None Known

**CANCER STATEMENT:** This product is not considered to be a carcinogen by OSHA, IARC or NTP.

**IRRITANCY:** Exposure to process vapors may cause eye and respiratory tract irritation.

**SENSITIZATION:** None Known

**WARNING CAUTION LABELS:** Burn Risk - Avoid contact with molten resin.

Explosion Risk - Prevent accumulation of dust particles.

Slipping Risk - Keep walking surfaces free of spilled material.

Vapor Risk - Provide ventilation to avoid exposure to process vapors.

**COMMENTS HEALTH:** None

**HEALTH HAZARDS:** Process vapors may cause eye and respiratory tract irritation.

**PHYSICAL HAZARDS:** Spilled material may present a slipping hazard.

Exposure to molten resin may cause thermal burns.

MSDS Pro-fax PD626 Page 4 of 10

## 4. FIRST AID MEASURES

**EYES:** Flush eyes with water for 15 minutes. Get medical attention.

**SKIN:** Molten Resin: If molten material comes in contact with the skin, cool under ice water or a running stream of water. DO NOT attempt to remove the material from the skin. Removal could result in severe tissue damage. Get medical attention.

**INGESTION:** Not Applicable

**INHALATION:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**ANTIDOTES:** Not Applicable

**NOTES TO PHYSICIAN:** None

**ADDITIONAL INFORMATION:** None

## 5. FIRE FIGHTING MEASURES

FLASHPOINT AND METHOD: >329°C (625°F)

**FLAMMABLE LIMITS:** Not Yet Determined

**AUTOIGNITION TEMPERATURE:** >357°C (675°F)

**EXTINGUISHING MEDIA:** Use foam, carbon dioxide, or water spray when fighting fires involving this material.

**HAZARDOUS COMBUSTION PRODUCTS:** Carbon dioxide, carbon monoxide, ketones, acrolein, aldehydes, unidentified organic compounds.

**EXPLOSION HAZARDS:** Product as shipped is not a combustible dust. However, a combustible concentration of dust may occur when fines are suspended in air.

FIRE FIGHTING PROCEDURES: Standard procedures for Class A fires.

**FIRE FIGHTING EQUIPMENT:** As in any fire, wear self-contained pressure demand breathing apparatus, (MSHA/NIOSH approved or equivalent) and full protective gear.

**SENSITIVE TO STATIC DISCHARGE:** Static discharge could be an ignition

MSDS Pro-fax PD626 Page 5 of 10

source for a combustible concentration of dust.

**SENSITIVITY TO IMPACT:** Not Applicable

## 6. ACCIDENTAL RELEASE MEASURES

### **SMALL SPILL:**

Sweep up material and place in a disposal container.

### **LARGE SPILL:**

Vacuum or sweep up material and place in a disposal container.

## **ENVIRONMENTAL PRECAUTIONS**

WATER SPILL: Keep pellets out of waterways.

LAND SPILL: Not yet Determined

AIR SPILL: Not yet Determined

**GENERAL PROCEDURES:** Vacuum or sweep up material and place in a disposal container.

**RELEASE NOTES:** None

**SPECIAL PROTECTIVE EQUIPMENT:** None

## 7. HANDLING AND STORAGE

**GENERAL PROCEDURES:** Keep away from heat, sparks and flame.

### **HANDLING:**

Ground and bond containers when transferring material.

### **STORAGE:**

This product may react with strong oxidizing agents and should not be stored near such materials. Store boxes and bags of material in areas protected with automatic sprinklers.

**STORAGE TEMPERATURE:** 60°C (140°F) maximum

MSDS Pro-fax PD626 Page 6 of 10

**LOADING TEMPERATURE:** Not Determined

LOADING/UNLOADING VISCOSITY: Not Determined

**STORAGE PRESSURE:** Not yet Determined

**STORAGE TEMPERATURE:** Store in a cool place below 140 F, 60 C.

**LOADING TEMPERATURE NOTES:** Not yet Determined

**SHELF LIFE:** Not yet Determined

**SPECIAL SENSITIVITY:** Not yet Determined

**ELECTROSTATIC ACCUMULATION HAZARD:** Material may accumulate static charges during transfers. Ground and bond containers when transferring material.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**ENGINEERING CONTROLS:** Provide adequate room ventilation. Provide adequate ventilation at the extruder to minimize exposure to process vapors. Eliminate ignition sources during repair and maintenance operations.

## PERSONAL PROTECTIVE EQUIPMENT

EYES AND FACE: Wear safety glasses with side shields (or goggles).

SKIN: When handling or processing resins at elevated temperatures or in a molten state, wear protective clothing over the skin to prevent contact.

RESPIRATORY: A respiratory protection program that meets OSHA 1910.134, ANSI Z88.2 and/or CSA Z94.4-93 requirements must be followed whenever workplace conditions warrant use of a respirator.

PROTECTIVE CLOTHING: When handling or processing resins at elevated temperatures or in a molten state, wear protective clothing over the skin to prevent contact.

WORK HYGIENIC PRACTICES: Not Established

**OTHER USE PRECAUTIONS:** Eyewash fountains and safety showers should be easily accessible.

# 9. PHYSICAL AND CHEMICAL PROPERTIES

MSDS Pro-fax PD626 Page 7 of 10

PHYSICAL STATE: Solid

**ODOR:** Slight waxy odor

**APPEARANCE:** Pellet

**COLOR:** Translucent to white

FREEZING POINT: Not Applicable

**MELTING POINT:** >160°C (320°F)

**DENSITY:** Not Determined

SPECIFIC GRAVITY: 0.88 to 0.92

VISCOSITY: Not Available

**MOLECULAR WEIGHT:** Not Available

(VOC) NOTES: Not yet Determined

**COMMENTS:** 

PHYSICAL STATE: None

**PERCENT VOLATILE:** < 0.4%

VAPOR PRESSURE: Not Applicable

**VAPOR DENSITY:** Not Applicable

**BOILING POINT:** Not Applicable

WATER SOLUBILITY: Negligible

**EVAPORATION RATE:** Not Applicable

# 10. STABILITY AND REACTIVITY

**STABLE:** YES

**HAZARDOUS POLYMERIZATION: NO** 

MSDS Pro-fax PD626 Page 8 of 10

**CONDITIONS TO AVOID:** Keep away from heat, sparks and flame.

**POLYMERIZATION:** Product will not undergo polymerization.

**HAZARDOUS DECOMPOSITION PRODUCTS:** At elevated temperatures the material will begin to decompose, producing fumes that can contain carbon dioxide, carbon monoxide, ketones, acrolein, aldehydes, unidentified organic compounds.

**INCOMPATIBLE MATERIALS:** Oxidizing materials.

## 11. TOXICOLOGICAL INFORMATION

### **GENERAL COMMENTS:**

Polypropylene Homopolymer Toxicological Information

LD50/LC50 - LETHAL DOSE/CONC 50% KILL

A. Rat

1. LD50; Route: Intraperitoneal; Dose: >110 gm/kg; Toxic Effects: Sense Organs and special senses - Lacrimation; Sense organs and special senses - Ptosis; Behavioral - Convulsions or effect on seizure threshold; Reference: Yakuri to Chiryo. Pharmacology and Therapeutics 14:1109, 1986. <CODEN YACHDS>

2. LD50; Route: Intravenous; Dose: >99 gm/kg; Toxic Effects: Behavioral - Tremor; Lungs, Thorax, or Respiration - Cyanosis; Nutritional and Gross Metabolic - Body temperature decrease; REFERENCE: Yakuri to Chiryo. Pharmacology and Therapeutics 14:1109, 1986. <CODEN YACHDS>

# 12. ECOLOGICAL INFORMATION

**ENVIRONMENTAL DATA:** Not Available

**ECOTOXICOLOGICAL INFORMATION:** Not Available

**DISTRIBUTION:** Not Available

**CHEMICAL FATE INFORMATION:** Not readily biodegradeable.

## 13. DISPOSAL CONSIDERATIONS

**DISPOSAL METHOD:** (1) Recycle (reprocess). (2) Incineration including energy recovery of waste material in a permitted facility in accordance with local, state or

MSDS Pro-fax PD626 Page 9 of 10

provincial and federal regulations. (3) Landfilling in a licensed facility in accordance with local, state or provincial and federal regulations.

**RCRA HAZARD CLASS:** This product is not judged to be a hazardous waste by any local, state or federal regulations; however, it may be listed as industrial waste in some states or provinces.

This product is not listed in the U.S. federal hazardous waste regulations, 40 CFR 261.33 paragraphs (e) or (f), i.e., chemical products that are considered hazardous if they become wastes. It does not exhibit any of the hazardous characteristics listed in 40 CFR 261 Subpart C. State or local hazardous waste regulations may apply if different from the federal.

## 14. TRANSPORT INFORMATION

**SPECIAL SHIPPING NOTES:** This product is not regulated by DOT, IMO, IATA, Canadian TDG and associated regulations, ADR or RID.

# 15. REGULATORY INFORMATION

**UNITED STATES** 

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

**TITLE III NOTES:** This product is not subject to SARA Title III requirements.

## TSCA (TOXIC SUBSTANCE CONTROL ACT)

**TSCA STATUS:** All ingredients in this product are in compliance with TSCA.

**OSHA HAZARD COMM. RULE:** This product is not considered a hazardous material at temperatures below the melting point as determined by Basell according to OSHA definitions.

**CLEAN WATER ACT:** This product is regulated under EPA's Clean Water Act/NPDES rules as "floating material". In addition, this product is considered "significant material" under the EPA's storm water permit rules.

### **CANADA**

WHMIS (WORKER HAZARDOUS MATERIALS INFORMATION

**SYSTEM):** This product is not considered a controlled substance under WHMIS. This MSDS meets WHMIS format requirements.

MSDS Pro-fax PD626 Page 10 of 10

**CANADIAN ENVIRONMENTAL PROTECTION ACT:** All ingredients in this product are listed under CEPA on the DSL.

## **EUROPEAN COMMUNITY**

**EUROPEAN COMMUNITY REGULATORY:** All ingredients are in compliance with EINECS/ELINCS.

## 16. OTHER INFORMATION

**REASON FOR ISSUE:** update

APPROVED BY: Richard T. LeNoir TITLE: Sfty & Reg. Affairs Specialist

### **REVISION SUMMARY**

Revision #: 3

This MSDS replaces the November 05, 1996 MSDS. Any changes in information are as follows: In Section 1
Date Prepared

### **MANUFACTURER DISCLAIMER:**

The information contained in this Material Safety Data Sheet has been compiled from sources which Basell considers reliable and accurate to the best of Basell's knowledge. The information relates only to the specific product described above, and not to use of the product in combination with another material. Customers and other users should read this MSDS and the product label carefully before using the product. Basell neither assumes, nor authorizes anyone to assume on Basell's behalf, any liability in connection with the use of the information in this MSDS.

Customers and other users should do their own testing before making commercial use of the product to ensure that the product is fit for the intended application and that the product can be used, and any waste material disposed of, safely, properly, and legally based on the customer's or other user's circumstances.

BASELL MAKES NO WARRANTIES, EXPRESS OR IMPLIED, WITH RESPECT TO THE PRODUCT, INCLUDING (WITHOUT LIMITATION) WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. THE CUSTOMER OR OTHER USER OF THE PRODUCT ASSUMES ALL RISK AND LIABILITY ARISING OUT OF THE USE OF THE PRODUCT, WHETHER USED ALONE OR IN COMBINATION WITH OTHER MATERIALS. BASELL'S LIABILITY, IF ANY, FOR BREACH OF CONTRACT, BREACH OF WARRANTY, NEGLIGENCE (INCLUDING THAT OF BASELL) OR OTHER TORT, STRICT LIABILITY, OR ANY OTHER CLAIM SHALL NOT EXCEED IN AMOUNT THE PURCHASE PRICE OF BASELL PRODUCTS WITH RESPECT TO WHICH SUCH CAUSE AROSE. IN NO EVENT SHALL BASELL BE LIABLE FOR CONSEQUENTIAL, SPECIAL, OR INCIDENTAL DAMAGES.



## **Chemical Compatibility Information**

#### **Chemical Compatibility**

Our products are leak tested before they are shipped, so you should never find one of our products to leak. If you ever find that one of our products is leaking, chances are you are looking at a chemical compatibility issue. Don't worry, this is an issue that we can solve with a little testing and your help.

The first thing to keep in mind is that you should test every chemical you plan to use with the product. The fact that water worked fine in the first test, has little relevance to the acid that you actually intend to use.

Next, know what to look for. If you find that the couplings are harder to connect then they have been in the past, you might be looking at a chemical compatibility issue. In an extreme case, if you find that the Shut-Off valves "Freeze" open, then you are very likely looking at a chemical issue. No, the products are not designed to work that way, and no it is not a flaw in the product design. What is happening is, at least one of the materials is swelling from the chemical, and because of the close tolerance of our products, the valve is clamped open. Again, this is easily solved with a little testing.

Don't be afraid to talk to us about any issues that you may have, in most cases we can easily solve it. After all, we have a very good idea what we are doing here.

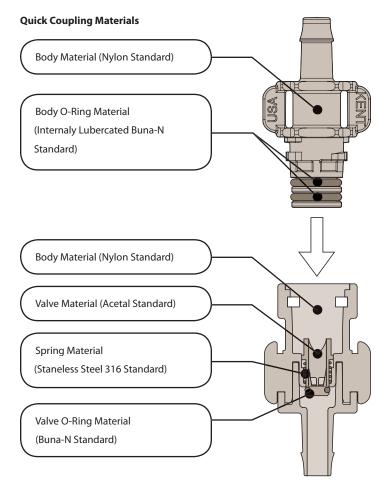
The table listed below is a good place to start your testing. If you see that any of the chemicals are listed as less then good, you may need a different material then what is on our standard products. Go ahead, call us at 970.593.3185 so that we can lend you a hand. Because we offer semi-custom options, we can help you figure out what you need.

OK now the legal stuff. The data presented in this table is for reference only. We recommend that you obtain Free Samples of our products for your testing. All information is supplied without expressed or implied warranty and does not constitute an endorsement.

Keep in mind that different products will have materials in them. Quick couplings have a number of different materials and are some times not visible when looking at the product. Be sure to test properly test your products before use.

We specialize in solutions and can solve most chemical issues

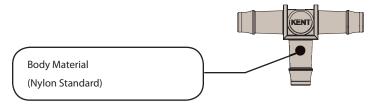




### **Quick Coupling Chemical Compatibility Symptoms**

- Hard Connection or Disconnection
- Valve "Freezing"
- Leaking from the Coupling
- Leaking from the Valve

#### **Fitting Materials**



### **Tube Fitting Chemical Compatibility Symptoms**

- Product Becoming Softer
- Leaking From Side Wall
- Leaking around barb

Phone: 970.593.3185 > Fax: 970.593.9684 > www.KentSystems.com



## Chimical Compatibility Information (Plastic Materials)

| CHEMICAL                          | NYLON         | ACETAL        | POLYPROPYLENE   | POLYCARBONATE              | PVDF (KYNAR®)              |
|-----------------------------------|---------------|---------------|-----------------|----------------------------|----------------------------|
| Acetic Acid                       | Severe Effect | Severe Effect | B-Good          | B-Good                     | C-Fair                     |
| Acetone                           | Excellent     | Excellent     | A-Excellent     | D-Severe Effect            | D-Severe Effect            |
| Acetylene                         | Excellent     | Excellent     | A-Excellent     | D-Severe Effect            | A-Excellent                |
| Alcohols:Amyl                     | Excellent     | Excellent     | B-Good          | B-Good                     | A-Excellent                |
| Alcohols:Benzyl                   | Good          | Excellent     | A-Excellent     | N/A                        | A-Excellent                |
| Alcohols:Butyl                    | Severe Effect | Excellent     | A-Excellent     | A-Excellent                | A-Excellent                |
| Alcohols:Diacetone                | Excellent     | Excellent     | B-Good          | N/A                        | A-Excellent                |
| Alcohols:Ethyl                    | Excellent     | Excellent     | A-Excellent     | B-Good                     | N/A                        |
| Alcohols:Hexyl                    | Excellent     | Excellent     | N/A             | N/A                        | N/A                        |
| Alcohols:Isobutyl                 | Excellent     | Excellent     | A-Excellent     | N/A                        | N/A                        |
| Alcohols:Isopropyl                | Severe Effect | Excellent     | A-Excellent     | A-Excellent                | N/A                        |
| Alcohols:Methyl                   | Good          | Excellent     | A-Excellent     | B-Good                     | A-Excellent                |
| Alcohols:Octyl                    | Excellent     | Excellent     | N/A             | N/A                        | N/A                        |
| Alcohols:Propyl                   | Severe Effect | Excellent     | A-Excellent     | N/A                        | A-Excellent                |
| Aluminum Hydroxide                | Excellent     | Excellent     | A-Excellent     | B-Good                     | A-Excellent                |
| Antifreeze                        | Severe Effect | Severe Effect | D-Severe Effect | N/A                        | N/A                        |
| Barium Sulfate                    | Excellent     | Good          | B-Good          | D-Severe Effect            | A-Excellent                |
|                                   |               |               |                 |                            |                            |
| Benzene                           | Excellent     | Excellent     | D-Severe Effect | D-Severe Effect            | A-Excellent                |
| Benzoic Acid                      | Severe Effect | Good          | B-Good          | B-Good                     | A-Excellent                |
| Brewery Slop                      | N/A           | Good          | N/A             | N/A                        | N/A                        |
| Butter                            | N/A           | Excellent     | N/A             | N/A                        | N/A                        |
| Buttermilk                        | Good          | Excellent     | A-Excellent     | A-Excellent                | N/A                        |
| Cane Juice                        | Excellent     | Excellent     | C-Fair          | N/A                        | A-Excellent                |
| Carbon Dioxide (dry)              | Excellent     | Excellent     | A-Excellent     | N/A                        | A-Excellent                |
| Carbon Monoxide                   | Excellent     | Excellent     | A-Excellent     | N/A                        | B-Good                     |
| Carbon Tetrachloride              | Severe Effect | Good          | D-Severe Effect | D-Severe Effect            | A-Excellent                |
| Catsup                            | Excellent     | Good          | A-Excellent     | N/A                        | N/A                        |
| Chlorine (dry)                    | Severe Effect | Severe Effect | D-Severe Effect | N/A                        | A-Excellent                |
| Chlorine Water                    | Fair          | Severe Effect | D-Severe Effect | N/A                        | B-Good                     |
| Chlorobenzene (Mono)              | Severe Effect | Severe Effect | C-Fair          | D-Severe Effect            | A-Excellent                |
| Chocolate Syrup                   | Excellent     | Excellent     | A-Excellent     | A-Excellent                | N/A                        |
| Clorox® (Bleach)                  | Excellent     | Severe Effect | D-Severe Effect | N/A                        | A-Excellent                |
| Coffee                            | Excellent     | Excellent     | A-Excellent     | N/A                        | N/A                        |
| Cyclohexanone                     | Excellent     | Excellent     | D-Severe Effect | D-Severe Effect            | D-Severe Effect            |
| Diesel Fuel                       | Excellent     | Excellent     | A-Excellent     | A-Excellent                | A-Excellent                |
| Ethanol                           | Excellent     | Excellent     | A-Excellent     | B-Good                     | N/A                        |
| Ethyl Acetate                     | Excellent     | Excellent     |                 | D-Severe Effect            | D-Severe Effect            |
| Ethylene Glycol                   | Excellent     | Good          | A-Excellent     | B-Good                     | A-Excellent                |
| Fluorine                          | Severe Effect | Severe Effect | D-Severe Effect | C-Fair                     | A-Excellent                |
| Fruit Juice                       | Excellent     | Severe Effect | B-Good          | N/A                        | A-Excellent                |
| Gasoline (high-aromatic)          | Excellent     | Good          | A-Excellent     | A-Excellent                | A-Excellent                |
| "Gasoline, leaded, ref."          | Excellent     | Excellent     | B-Good          | A-Excellent                | A-Excellent                |
| "Gasoline, unleaded"              | Excellent     | Excellent     | C-Fair          | A-Excellent                | A-Excellent                |
| Grape Juice                       | Excellent     | Excellent     | N/A             | N/A                        | A-Excellent                |
| Honey                             | Excellent     | Excellent     | A-Excellent     | A-Excellent                | A-Excellent                |
| Hydrocyanic Acid                  | Good          | Good          | C-Fair          | N/A                        | A-Excellent                |
| Hydrogen Peroxide 100%            | Severe Effect | Severe Effect | B-Good          | A-Excellent                | A-Excellent                |
| "Jet Fuel (JP3, JP4, JP5)"        | Fair          | Excellent     | A-Excellent     | A-Excellent                | B-Good                     |
| Kerosene                          | Excellent     | Excellent     | B-Good          | D-Severe Effect            | A-Excellent                |
| Magnesium Chloride                | Excellent     | Good          | A-Excellent     | A-Excellent                | A-Excellent                |
| Methanol (Methyl Alcohol)         | Good          | Excellent     | A-Excellent     | B-Good                     | A-Excellent                |
| Methyl Ethyl Ketone               | Excellent     | Fair          | B-Good          | D-Severe Effect            | D-Severe Effect            |
| Milk                              | Excellent     | Excellent     | B-Good          | A-Excellent                | A-Excellent                |
| Motor oil                         | Excellent     | Good          | A-Excellent     | A-Excellent                | B-Good                     |
| Nitric Acid (Concentrated)        | Severe Effect | Severe Effect | D-Severe Effect | C-Fair                     | A-Excellent                |
| Ozone                             | Severe Effect | Fair          | B-Good          | A-Excellent                | A-Excellent                |
| Phenol (10%)                      | Severe Effect | Good          | B-Good          | B-Good                     | A-Excellent                |
| Rum                               | Excellent     | Excellent     | A-Excellent     | N/A                        | N/A                        |
| Sea Water                         | Excellent     | Excellent     | A-Excellent     | A-Excellent                | A-Excellent                |
| Sodium Chloride                   | Excellent     | Excellent     | A-Excellent     | A-Excellent<br>A-Excellent | A-Excellent                |
| Sodium Hydroxide (80%)            | Fair          | Severe Effect | A-Excellent     | D-Severe Effect            | A-Excellent                |
| Sulfuric Acid (75-100%)           | Severe Effect | N/A           | C-Fair          | D-Severe Effect            | A-Excellent<br>A-Excellent |
|                                   |               |               |                 |                            |                            |
| Sulfuric Acid (cold concentrated) | Severe Effect | N/A           | A-Excellent     | N/A                        | A-Excellent                |
| Sulfuric Acid (hot concentrated)  | Severe Effect | N/A           | D-Severe Effect | D-Severe Effect            | C-Fair                     |
| Tetrahydrofuran T. L. (T. L. 1)   | Excellent     | Excellent     | C-Fair          | D-Severe Effect            | B-Good                     |
| Toluene (Toluol)                  | Excellent     | Fair          | C-Fair          | D-Severe Effect            | A-Excellent                |
| Trichloroethylene                 | Fair          | Severe Effect | C-Fair          | N/A                        | B-Good                     |
| Urine                             | Good          | Excellent     | A-Excellent     | N/A                        | A-Excellent                |
| Water:Deionized                   | Excellent     | N/A           | A-Excellent     | N/A                        | A-Excellent                |
| Water:Distilled                   | Excellent     | Good          | A-Excellent     | A-Excellent                | A-Excellent                |
| Water:Fresh                       | Excellent     | Excellent     | A-Excellent     | A-Excellent                | A-Excellent                |
|                                   | Excellent     | Excellent     | A-Excellent     | A-Excellent                | A-Excellent                |
| Water:Salt                        | LXCEIIEIIL    |               |                 |                            |                            |

Disclaimer: The data presented in this publication is for reference only. It was compiled primarily from outside sources provided by feedstock materials suppliers and resin manufacturers, and is offered to our customers as a means of comparing the characteristics of resins and materials used by KENT Systems at the time of publication. The particular conditions of your use and application of our products are beyond our control. Thus, it is imperative that you test our products in your specific application to determine their ultimate suitability. All information is provided without implied or expressed warranty or guarantee by KENT Systems, or the resin and feedstock manufacturers. KENT Systems. assumes no liability with respect to the accuracy or completeness of the information contained herein and none of the information provided constitutes a recommendation or endorsement of any kind by KENT Systems.

Phone: 970.593.3185 > Fax: 970.593.9684 > www.KentSystems.com



## Chimical Compatibility Information (Springs and O-Rings

| CHEMICAL                                                           | BUNA-N        | VITON A       | EPDM          | SILCONE         | STAINLESS STEEL           |
|--------------------------------------------------------------------|---------------|---------------|---------------|-----------------|---------------------------|
| Acetic Acid                                                        | Fair          | Good          | Excellent     | C-Fair          | Severe Effect             |
| Acetone                                                            | Severe Effect | Severe Effect | Excellent     | D-Severe Effect | Excellent                 |
| Acetylene                                                          | Good          | Excellent     | Excellent     | B-Good          | Excellent                 |
| Alcohols:Amyl                                                      | Good          | Excellent     | Excellent     | D-Severe Effect | Excellent                 |
| Alcohols:Benzyl                                                    | Severe Effect | Excellent     | Good          | N/A             | Good                      |
| Alcohols:Butyl                                                     | Fair          | Excellent     | Excellent     | B-Good          | Excellent                 |
| Alcohols:Diacetone                                                 | Severe Effect | Severe Effect | Excellent     | D-Severe Effect | Excellent                 |
| Alcohols:Ethyl                                                     | Fair          | Excellent     | Excellent     | B-Good          | Excellent                 |
| Alcohols:Hexyl                                                     | Excellent     | Fair          | Fair          | B-Good          | Excellent                 |
| Alcohols:Isobutyl                                                  | Good          | Excellent     | Excellent     | A-Excellent     | Excellent                 |
| Alcohols:Isopropyl                                                 | Good          | Excellent     | Excellent     | A-Excellent     | Good                      |
| Alcohols:Methyl                                                    | Excellent     | Fair          | Excellent     | A-Excellent     | Excellent                 |
| Alcohols:Octyl                                                     | Good          | Good          | Excellent     | B-Good          | Excellent                 |
| Alcohols:Propyl                                                    | Excellent     | Excellent     | Excellent     | A-Excellent     | Excellent                 |
| Aluminum Hydroxide                                                 | Excellent     | Excellent     | Excellent     | N/A             | Excellent                 |
| Antifreeze                                                         | Excellent     | Excellent     | Excellent     | C-Fair          | N/A                       |
| Barium Sulfate                                                     | Excellent     | Excellent     | Excellent     | A-Excellent     | Good                      |
| Benzene                                                            | Severe Effect | Excellent     | Severe Effect | D-Severe Effect | Good                      |
| Benzoic Acid                                                       | Severe Effect | Excellent     | Severe Effect | B-Good          | Good                      |
|                                                                    |               |               | N/A           | N/A             | N/A                       |
| Brewery Slop                                                       | Excellent     | Excellent     |               |                 |                           |
| Butter                                                             | Excellent     | Excellent     | Excellent     | B-Good          | Fair                      |
| Buttermilk<br>Cana luisa                                           | Excellent     | Excellent     | Excellent     | A-Excellent     | Excellent                 |
| Cane Juice                                                         | Excellent     | Excellent     | Excellent     | A-Excellent     | Excellent                 |
| Carbon Dioxide (dry)                                               | Excellent     | Good          | Good          | B-Good          | Excellent                 |
| Carbon Monoxide                                                    | Excellent     | Excellent     | Excellent     | A-Excellent     | Excellent                 |
| Carbon Tetrachloride                                               | Severe Effect | Excellent     | Severe Effect | D-Severe Effect | Good                      |
| Catsup                                                             | Excellent     | Excellent     | Excellent     | N/A             | Excellent                 |
| Chlorine (dry)                                                     | Good          | Excellent     | Excellent     | D-Severe Effect | Excellent                 |
| Chlorine Water                                                     | Severe Effect | Excellent     | Fair          | D-Severe Effect | Fair                      |
| Chlorobenzene (Mono)                                               | Severe Effect | Excellent     | Severe Effect | D-Severe Effect | Excellent                 |
| Chocolate Syrup                                                    | Excellent     | Excellent     | Excellent     | N/A             | Excellent                 |
| Clorox® (Bleach)                                                   | Severe Effect | Excellent     | Good          | N/A             | Excellent                 |
| Coffee                                                             | Excellent     | Excellent     | Excellent     | A-Excellent     | Excellent                 |
| Cyclohexanone                                                      | Severe Effect | Severe Effect | Good          | D-Severe Effect | Excellent                 |
| Diesel Fuel                                                        | Excellent     | Excellent     | Severe Effect | D-Severe Effect | Excellent                 |
| Ethanol                                                            | Fair          | Excellent     | Excellent     | B-Good          | Excellent                 |
| Ethyl Acetate                                                      | Severe Effect | Severe Effect | Good          | B-Good          | Good                      |
| Ethylene Glycol                                                    | Excellent     | Excellent     | Excellent     | A-Excellent     | Good                      |
| Fluorine                                                           | Severe Effect | Fair          | Excellent     | D-Severe Effect | Fair                      |
| Fruit Juice                                                        | Excellent     | Excellent     | N/A           | N/A             | Excellent                 |
| Gasoline (high-aromatic)                                           | Excellent     | Excellent     | Severe Effect | D-Severe Effect | Excellent                 |
| "Gasoline, leaded, ref."                                           | Excellent     | Excellent     | Severe Effect | D-Severe Effect | Excellent                 |
| "Gasoline, unleaded"                                               | Excellent     | Excellent     | Severe Effect | D-Severe Effect | Excellent                 |
| Grape Juice                                                        | Excellent     | Excellent     | Excellent     | A-Excellent     | Excellent                 |
| Honey                                                              | Excellent     | Excellent     | Excellent     | A-Excellent     | Excellent                 |
| Hydrocyanic Acid                                                   | Good          | Excellent     | Excellent     | D-Severe Effect | Good                      |
| Hydrogen Peroxide 100%                                             | Severe Effect | Excellent     | Severe Effect | B-Good          | Good                      |
| "Jet Fuel (JP3, JP4, JP5)"                                         | Excellent     | Excellent     | Severe Effect | D-Severe Effect | Excellent                 |
| Kerosene                                                           | Excellent     | Excellent     | Severe Effect | D-Severe Effect | Excellent                 |
| Magnesium Chloride                                                 | Excellent     | Excellent     | Excellent     | A-Excellent     | Severe Effect             |
| Methanol (Methyl Alcohol)                                          | Excellent     | Fair          | Excellent     | A-Excellent     | Excellent                 |
| Methyl Ethyl Ketone                                                | Severe Effect | Severe Effect | Excellent     | D-Severe Effect | Excellent                 |
| Milk                                                               | Excellent     | Excellent     | Excellent     | A-Excellent     | Excellent                 |
| Motor oil                                                          | Excellent     | N/A           | Severe Effect | N/A             | Excellent                 |
| Nitric Acid (Concentrated)                                         | Severe Effect | Excellent     | Severe Effect | D-Severe Effect | Excellent                 |
| Ozone                                                              | Severe Effect | Excellent     | Excellent     | A-Excellent     | Good                      |
| Phenol (10%)                                                       | Severe Effect | Excellent     | Good          | D-Severe Effect | Good                      |
| Rum                                                                | Excellent     | Excellent     | Excellent     | A-Excellent     | Excellent                 |
| Sea Water                                                          | Excellent     | Excellent     | Excellent     | A-Excellent     | Fair                      |
| Sodium Chloride                                                    | Excellent     | Excellent     | Excellent     | A-Excellent     | Good                      |
| Sodium Hydroxide (80%)                                             | Severe Effect | Severe Effect | Good          | A-Excellent     | Fair                      |
| Sulfuric Acid (75-100%)                                            | Fair          | Excellent     | Good          | D-Severe Effect | Fair                      |
| Sulfuric Acid (75-100%) Sulfuric Acid (cold concentrated)          | Severe Effect | Good          | Fair          | D-Severe Effect | Fair                      |
| Sulfuric Acid (coid concentrated) Sulfuric Acid (hot concentrated) | Severe Effect | Excellent     | Severe Effect | D-Severe Effect | Severe Effect             |
|                                                                    |               |               |               |                 | Severe Eπect<br>Excellent |
| Tetrahydrofuran                                                    | Severe Effect | Severe Effect | Severe Effect | D-Severe Effect |                           |
| Toluene (Toluol)                                                   | Severe Effect | Fair          | Severe Effect | D-Severe Effect | Excellent                 |
| Trichloroethylene                                                  | Severe Effect | Excellent     | Severe Effect | D-Severe Effect | Good                      |
| Urine                                                              | Excellent     | Excellent     | Excellent     | N/A             | Excellent                 |
| Water:Deionized                                                    | Excellent     | Excellent     | Excellent     | N/A             | Excellent                 |
| Water:Distilled                                                    | Excellent     | Excellent     | Excellent     | C-Fair          | Excellent                 |
| Water:Fresh                                                        | Excellent     | Excellent     | Excellent     | B-Good          | Excellent                 |
| Water:Salt                                                         | Excellent     | Excellent     | Excellent     | B-Good          | Good                      |
| Whiskey & Wines                                                    | Excellent     | Excellent     | Excellent     | A-Excellent     | Excellent                 |

Disclaimer: The data presented in this publication is for reference only. It was compiled primarily from outside sources provided by feedstock materials suppliers and resin manufacturers, and is offered to our customers as a means of comparing the characteristics of resins and materials used by KENT Systems at the time of publication. The particular conditions of your use and application of our products are beyond our control. Thus, it is imperative that you test our products in your specific application to determine their ultimate suitability. All information is provided without implied or expressed warranty or guarantee by KENT Systems, or the resin and feedstock manufacturers. KENT Systems. assumes no liability with respect to the accuracy or completeness of the information contained herein and none of the information provided constitutes a recommendation or endorsement of any kind by KENT Systems.

Phone: 970.593.3185 > Fax: 970.593.9684 > www.KentSystems.com