1. IDENTIFICATION
   Product Name: ASACLEAN™ PX2, PF
   SDS Number: ASA-Gr3-US-003

RESPONSIBLE PARTY IN THE USA:
   Company Name: Sun Plastech Inc.
   Address: 1055 Parsippany Blvd.
   Parsippany, NJ 07054
   Telephone number: 1-973-257-1999
   Facsimile number: 1-973-257-1011

EMERGENCY TELEPHONE NUMBER:
   CHEMTREC
   Telephone number: 1-800-424-9300 (US/Canada) or 1-703-527-3887 (International)

RECOMMENDED APPLICATION:
   Purging compound for thermoplastic injection molding machines and extruders

RESTRICTION ON USAGE:
   Usage for the following application is strictly prohibited:
   - Being implanted into human body
   - Invasive or non-invasive contact with human body (including blood, body fluids, etc.) continuously for 30 days or more.

2. HAZARD(S) IDENTIFICATIONS
   GHS CLASSIFICATION:
   PHYSICAL AND CHEMICAL HAZARDS:
   Combustible solid: Classification not possible
   Metal-corrosive material: Classification not possible
   Those items except the above are out of scope for classification.

HEALTH TOXICITY:
   Acute toxicity (oral): Classification not possible
   Acute toxicity (dermal): Classification not possible
   Acute toxicity (Inhalation: gases): Classification not possible
   Acute toxicity (Inhalation: vapors): Classification not possible
   Acute toxicity (Inhalation: dusts / mists): Classification not possible
   Skin corrosion / irritation: Classification not possible
   Serious eye damage / eye irritation: Classification not possible
   Respiratory sensitization: Classification not possible
   Skin sensitization: Classification not possible
   Germ cell mutagenicity: Classification not possible
   Carcinogenicity: Classification not possible
   Reproductive toxicity: Classification not possible
   Specific target organ / systemic toxicity (single exposure): Classification not possible
   Specific target organ / systemic toxicity (repeated exposure): Classification not possible
   Aspiration Hazard: Classification not possible

HAZARDOUS TO THE AQUATIC ENVIRONMENT:
   Toxicity to the aquatic environment (acute): Classification not possible
   Toxicity to the aquatic environment (chronic): Classification not possible

GHS LABEL ELEMENTS:
   Pictograms: None
   Signal word: None
   Hazard statements: None
   Precautionary Statements: None
ASACLEAN™

SAFETY DATA SHEET

Product Name: ASACLEAN™
SDS No.: ASA-Gr3-US-003
First issue: August 28, 2014
Revised: April 1, 2016
Form # 058E

3. COMPOSITION / INFORMATION ON INGREDIENTS
Classification of the substance or mixture: Mixture

<table>
<thead>
<tr>
<th>Grade</th>
<th>Composition</th>
<th>Content %</th>
<th>CAS No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PX2</td>
<td>Polycarbonic resin</td>
<td>Less than 60</td>
<td>Rgstd/Non-disclosed</td>
</tr>
<tr>
<td></td>
<td>Resin additives</td>
<td>Less than 10</td>
<td>Rgstd/Non-disclosed</td>
</tr>
<tr>
<td></td>
<td>Inorganic additives(Incl. GF)</td>
<td>Less than 50</td>
<td>Rgstd/Non-disclosed</td>
</tr>
<tr>
<td></td>
<td>Other additives</td>
<td>Less than 10</td>
<td>Rgstd/Non-disclosed</td>
</tr>
<tr>
<td>PF</td>
<td>Polycarbonic resin</td>
<td>More than 70</td>
<td>Rgstd/Non-disclosed</td>
</tr>
<tr>
<td></td>
<td>Resin additives</td>
<td>Less than 10</td>
<td>Rgstd/Non-disclosed</td>
</tr>
<tr>
<td></td>
<td>Inorganic additives</td>
<td>Less than 20</td>
<td>Rgstd/Non-disclosed</td>
</tr>
<tr>
<td></td>
<td>Other additives</td>
<td>Less than 10</td>
<td>Rgstd/Non-disclosed</td>
</tr>
</tbody>
</table>

The specific chemical identities and percentages of composition have been withheld as trade secrets.

4. FIRST-AID MEASURES

INHALATION: When feeling sick by inhaling gas and / or fumes generated from molten plastics, move the victim from the area to fresh air and wait for recovery. Seek medical attention.

SKIN CONTACT: For skin contact with powder or pellets, wash thoroughly with soap and water. For skin contact with molten plastic, immediately wash thoroughly and cool down with soap and water. Hardened resin that hardens on the skin should not be forcibly peeled off. Seek medical attention if there is a burn.

EYE: Because there is a possibility of damaging the eyeball, immediately flush the affected eye(s) with copious quantity of clean water for at least 15 minutes. Remove contact lens(es) at once unless the lens(es) is/are stuck to eye(s).

INGESTION: If swallowing, induce vomiting. Seek immediate medical attention if abnormality is felt.

PROTECTION TO FIRST-AIDERS: Ventilate gas generated from the molten plastics / Wear protective gear.

5. FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA: Water spray, water-jet and other various fire extinguishers.

SPECIFIC HAZARDS / TOXICITY AT FIRE: May emit gases including carbon monoxide, and carbon dioxide, etc.

FIRE-FIGHTING INSTRUCTIONS: Extinguish fire from a windward direction.

PROTECTION TO FIRE-FIGHTERS: Wear protective clothing. In case of large amount of gases emitted, breathing apparatus should be used.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTION: When both pellets and powders are spilled on the floor, promptly clean to prevent slipping.

ENVIRONMENTAL NOTES: Due to possible adverse affects to fish, birds, etc., immediately clean up any material that may have spilled into bodies of water.

REMOVAL METHOD: Sweep with vacuum cleaner, broom, etc., and dispose of properly.

PREVENTIVE MEASURE OF SECONDARY DISASTER: None
7. HANDLING AND STORAGE

HANDLING:
1) Application temperature: PX2, PF: 280~420°C
2) Though there is less likelihood of pellets igniting under normal temperatures, avoid any fire/ignition sources in the vicinity of the product and perform adequate housekeeping to keep the surrounding clean.
3) Cool down purge pile with water.
4) Ensure proper ventilation since resins processed at high temperatures will emit gases. Local ventilation preferably should be provided.

STORAGE:

SUITABLE STORAGE CONDITION:
1) Store material in away from heat and ignition sources.
2) Avoid direct sunlight.
3) Store material away from high temperatures and high humidity.

SAFE CONTAINER MATERIAL FOR PACKING: Use appropriate storage containers.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

MEASURES FOR FACILITIES: Provide local exhaust ventilation for comfortable working environments.

CONTROL OF CONCENTRATION: Not established

ALLOWABLE CONCENTRATION: Although ACGIH has not established the allowable concentration for dust, the following values are considered to be appropriate for operation.

ACGIH (2014 version):
- Allowable concentration as general dust (TWA)
  - INHALABLE PARTICULATE: 10mg / m³
  - RESPIRABLE PARTICULATE: 3 mg / m³

PROTECTIVE TOOLS:
- Respiratory organ: Box respirator for organic gas should be worn when working in areas where inhalation of high temperature gases is possible.
- For hand: Wear heat-proof gloves when molten resin is handled.
- For eye: During purging operation, resin-made glasses and resin-made goggle with side-shields should be worn.
- For skin & body: Work wear with long sleeves is recommended when molten resin is handled.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:
- Physical form: Solid
- Shape: Pellet
- Color: Milky white
- Odor: Specific slight odor
- pH: Not applicable
- Odor threshold: Not available
- Melting Point: Does not exhibit sharp melting point, but softens at about 150°C for type PX2 and PF.
- Decomposition Temperature: No data
- Flash Point: PX2 and PF: >460°C
- Auto-ignition Temperature: PX2 and PF: >520°C
- Explosive Limits
Lower Limit: Not applicable
Upper Limit: Not applicable
Specific Gravity: PX2: 1.61, PF: 1.26
Solubility:
  Water: Insoluble
  Other solvent: Soluble in aromatic and ester solvents
Vapor pressure: Not available
Vapor density: Not available
Relative density: Not available
Partition coefficient: Not available
Viscosity: Not available

10. STABILITY AND REACTIVITY

STABILITY: Stable under normal temperature.
REACTIVITY: None

CONDITIONS TO AVOID:
- Avoid using outside the specified temperature range.
- Do not let sit in barrel at temperatures higher than 370°C for PF
- Do not let sit in barrel for ANY amount of time at ANY temperature for PX2.

MATERIALS TO AVOID: None

HAZARDOUS / TOXIC DECOMPOSITION PRODUCTS:
The product may emit gases such as carbon monoxide, carbon dioxide, etc. during incineration.

11. TOXICOLOGICAL INFORMATION

<table>
<thead>
<tr>
<th></th>
<th>Base resin</th>
<th>Resin Additives</th>
<th>Inorganic Additives (Incl. GF)</th>
<th>Other Additives</th>
<th>Composition (Product)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Toxicity (oral)</td>
<td>Classification not possible (No data available)</td>
<td>Classification not possible (No data available)</td>
<td>Classification not possible (No data available)</td>
<td>Category 5 (PX2, PF)</td>
<td>Classification not possible (Remarks*1)</td>
</tr>
<tr>
<td>Acute Toxicity (Dermal)</td>
<td>Classification not possible (No data available)</td>
<td>Classification not possible (No data available)</td>
<td>Classification not possible (No data available)</td>
<td>Classification not possible (No data available)</td>
<td>Classification not possible (No data available)</td>
</tr>
<tr>
<td>Acute Toxicity (Inhalation: gases)</td>
<td>Classification not possible (No data available)</td>
<td>Classification not possible (No data available)</td>
<td>Classification not possible (No data available)</td>
<td>Classification not possible (No data available)</td>
<td>Classification not possible (No data available)</td>
</tr>
<tr>
<td>Acute Toxicity (Inhalation: vapor)</td>
<td>Classification not possible (No data available)</td>
<td>Classification not possible (No data available)</td>
<td>Classification not possible (No data available)</td>
<td>Classification not possible (No data available)</td>
<td>Classification not possible (No data available)</td>
</tr>
<tr>
<td>Acute Toxicity (Inhalation: dust / mist)</td>
<td>Classification not possible (No data available)</td>
<td>Classification not possible (No data available)</td>
<td>Classification not possible (No data available)</td>
<td>Classification not possible (No data available)</td>
<td>Classification not possible (No data available)</td>
</tr>
<tr>
<td>Skin Corrosion / Irritation</td>
<td>Classification not possible (No data available)</td>
<td>Classification not possible (No data available)</td>
<td>Classification not possible (No data available)</td>
<td>Category 2 (PX2)</td>
<td>Classification not possible (Remarks*2)</td>
</tr>
<tr>
<td>Serious Eye Damage/ Eye Irritation</td>
<td>Classification not possible (No data available)</td>
<td>Classification not possible (No data available)</td>
<td>Classification not possible (No data available)</td>
<td>Category 2B (PX2)</td>
<td>Classification not possible (Remarks*2)</td>
</tr>
<tr>
<td>Respiratory or Skin Sensitization</td>
<td>Classification not possible (No data available)</td>
<td>Classification not possible (No data available)</td>
<td>Classification not possible (No data available)</td>
<td>Classification not possible (No data available)</td>
<td>Classification not possible (No data available)</td>
</tr>
<tr>
<td>Germ Cell Mutagenicity</td>
<td>Classification not possible (No data available)</td>
<td>Classification not possible (No data available)</td>
<td>Classification not possible (No data available)</td>
<td>Classification not possible (No data available)</td>
<td>Classification not possible (No data available)</td>
</tr>
</tbody>
</table>
### Carcinogenicity

<table>
<thead>
<tr>
<th>Classification</th>
<th>Classification</th>
<th>Classification</th>
<th>Classification</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>not possible</td>
<td>not possible</td>
<td>not possible</td>
<td>not possible</td>
<td>not possible</td>
</tr>
<tr>
<td>(No data available)</td>
<td>(No data available)</td>
<td>(No data available)</td>
<td>(No data available)</td>
<td>(No data available)</td>
</tr>
</tbody>
</table>

### Reproductive Toxicity

<table>
<thead>
<tr>
<th>Classification</th>
<th>Classification</th>
<th>Classification</th>
<th>Classification</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>not possible</td>
<td>not possible</td>
<td>not possible</td>
<td>not possible</td>
<td>not possible</td>
</tr>
<tr>
<td>(No data available)</td>
<td>(No data available)</td>
<td>(No data available)</td>
<td>(No data available)</td>
<td>(No data available)</td>
</tr>
</tbody>
</table>

### Specific Target Organ / Systemic Toxicity (single exposure)

<table>
<thead>
<tr>
<th>Classification</th>
<th>Classification</th>
<th>Classification</th>
<th>Classification</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>not possible</td>
<td>Classification</td>
<td>Category 3</td>
<td>Classification</td>
<td>Classification</td>
</tr>
<tr>
<td>(No data available)</td>
<td>not possible</td>
<td>Respiratory tract irritation</td>
<td>not possible</td>
<td>not possible</td>
</tr>
<tr>
<td>(No data available)</td>
<td>(No data available)</td>
<td>(No data available)</td>
<td>(No data available)</td>
<td>(No data available)</td>
</tr>
</tbody>
</table>

### Specific Target Organ / Systemic Toxicity (repeated exposure)

<table>
<thead>
<tr>
<th>Classification</th>
<th>Classification</th>
<th>Classification</th>
<th>Classification</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>not possible</td>
<td>Classification</td>
<td>Classification</td>
<td>Classification</td>
<td>Classification</td>
</tr>
<tr>
<td>(No data available)</td>
<td>not possible</td>
<td>not possible</td>
<td>not possible</td>
<td>not possible</td>
</tr>
<tr>
<td>(No data available)</td>
<td>(No data available)</td>
<td>(No data available)</td>
<td>(No data available)</td>
<td>(No data available)</td>
</tr>
</tbody>
</table>

### Respiratory Toxicity by Inhalation

<table>
<thead>
<tr>
<th>Classification</th>
<th>Classification</th>
<th>Classification</th>
<th>Classification</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>not possible</td>
<td>Classification</td>
<td>Classification</td>
<td>Classification</td>
<td>Classification</td>
</tr>
<tr>
<td>(No data available)</td>
<td>not possible</td>
<td>not possible</td>
<td>not possible</td>
<td>not possible</td>
</tr>
<tr>
<td>(No data available)</td>
<td>(No data available)</td>
<td>(No data available)</td>
<td>(No data available)</td>
<td>(No data available)</td>
</tr>
</tbody>
</table>

(Remarks):
In the column of "Composition (Product)", other types of grade except those grades specifically categorized therein are "Classification not possible".

*1: Since inclusion of other additives is less than 0.5%, the product is labeled as "Classification not possible".
*2: Even though the product is classifiable for some items if looked solely as a GF (glass fiber) unit, it’s labeled as "Classification not possible" as a form of kneaded-pellet product since it (GF content) is judged as having little effect.

### 12. ECOLOGICAL INFORMATION

<table>
<thead>
<tr>
<th>Hazardous to The Aquatic Environment (Acute)</th>
<th>Hazardous to The Aquatic Environment (Chronic)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classification not possible</td>
<td>Classification not possible</td>
</tr>
<tr>
<td>(No data available)</td>
<td>(No data available)</td>
</tr>
</tbody>
</table>

### 13. DISPOSAL CONSIDERATIONS

Refer to all federal, state and local regulations.
Do not dump this product into sewers, on the ground or into any body of water.

### 14. TRANSPORT INFORMATION

#### LAND TRANSPORT

ADR, RID, DOT
- Class: Not applicable
- Packing Group (PG): Not applicable
- UN Number: Not applicable
- Proper Shipping Name: ASACLEAN (Purging Compound)

#### SEA TRANSPORT

IMDG
- Class: Not applicable
- Packing Group(PG): Not applicable
- UN Number: Not applicable
- Proper Shipping Name: ASACLEAN (Purging Compound)

#### AIR TRANSPORT

ICAO/IATA
SAFETY DATA SHEET

Class: Not applicable
Packing Group (PG): Not applicable
UN Number: ASACLEAN (Purging Compound)
Proper Shipping Name: Not applicable

15. REGULATORY INFORMATION

USA
TSCA Inventory: All ingredients are listed or exempt.
EPCRA Section 312/313: No ingredients are listed above reportable quantities.
CERCLA Hazardous Substances: No ingredients are listed above reportable quantities.
Canada
HMIS
Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used only in conjunction with a fully implemented HMIS® program by workers who have received appropriate HMIS® training. HMIS® is a registered trade and service mark of the NPCA. HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

16. OTHER INFORMATION

This information is furnished without warranty, express or implied, except that it is accurate to the best knowledge of Asahi Kasei Corporation. It relates only to the specific product designated herein, and does not relate to use in combination with any other material or in any process. Asahi Kasei Corporation assumes no legal responsibility for use of or reliance upon this information.

According to our company policy, both usages of this product to purge when producing the following medical equipment written below and to produce general medical equipment itself are strictly prohibited.
- Being implanted into human body.
- Invasive (human body) applications
- Contact with human body (including blood, body fluid, etc.) continuously for 30 days or more.
For any other medical-related applications, please contact the Asaclean Business Department. (Phone +81-3-3296-3274).

For any query with respect to what is contained herein, please refer to:
Asaclean Technology Group
Asahi Kasei Corporation
1-3-1 Yakoh, Kawasaki-ku, Kawasaki City, Kanagawa, 210-0863, Japan;
Tel: +81-44-271-2503, Fax: +81-44-271-2333