1. PRODUCT AND COMPANY IDENTIFICATION

Dyna-Plex 21C® Glass Machine Oil
Base Oil and Additives
Paper Machine Oil
Product Code:

Universal Lubricants, A PetroChoice Company
2824 N Ohio Street
Wichita, Kansas 67219
Website: www.petrochoice.com

1-800-444-6457 Telephone
1-316-832-3627 Product Information telephone
1-800-633-8253 US, Canada, Puerto Rico, Virgin Isl.- Emergency telephone (PERS)
+1-801-629-0667 International / Maritime Emergency telephone (PERS)

2. HAZARDS IDENTIFICATION

This material is not considered to be hazardous according to regulatory guidelines (see SDS Section 15).

OSHA/HCS Status:
While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of this product.

Physical Hazards: No significant hazards.
Health Hazards: High-pressure injection under skin may cause serious damage. Excessive exposure may result in eye, skin, or respiratory irritation.
Environmental Hazards: No significant hazards.
Signal Word: No signal word
Hazard Statement: None as defined under 29 CFR 1910.1200.

GHS Symbol: No Symbol

<table>
<thead>
<tr>
<th>NFPA RATINGS:</th>
<th>Health</th>
<th>Flammability</th>
<th>Reactivity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HMIS RATINGS:</th>
<th>Health</th>
<th>Flammability</th>
<th>Reactivity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

Dyna-Plex 21C® Glass Machine Oil
NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

Precautionary Statements

General: Read label before use. Keep out of reach of children. If medical advice is needed, have product information at hand.

Prevention: Not applicable
Response: Not applicable
Storage: Not applicable
Disposal: Not applicable

3. COMPOSITION/INFORMATION ON INGREDIENTS

Formula: This material is defined as a mixture.

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS Number</th>
<th>Concentration %</th>
<th>GHS Hazard Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium Alkynaphthalenesulfonate/Carboxylate</td>
<td>57855-77-3</td>
<td>0.1 - &lt; 1%</td>
<td>H315, H319(2A), H317</td>
</tr>
<tr>
<td>Phenol, Dimethyl-, Phosphate (3:1)</td>
<td>25155-23-1</td>
<td>&lt; 0.1%</td>
<td>H360(1B)(F), H373, H400(M factor 10), H410(M factor 1)</td>
</tr>
</tbody>
</table>

* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

As per paragraph (i) of 29 CFR 1910.1200, formulation is considered a trade secret and specific chemical identity and exact percentage (concentration) of composition may have been withheld. Specific chemical identity and exact percentage composition will be provided to health professionals, employees, or designated representatives in accordance with applicable provisions of paragraph (i).

4. FIRST AID MEASURES

INHALATION
Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.
SKIN CONTACT
Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT
Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION
First aid is normally not required. Seek medical attention if discomfort occurs.

5. FIREFIGHTING MEASURES

EXTINGUISHING MEDIA
Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING
Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Hazardous Combustion Products: Aldehydes, Smoke, Fume, Sulfur Oxides, Incomplete Combustion products, Oxides of Carbon

FLAMMABILITY PROPERTIES
Flash Point [Method]: >227°C (441°F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D

6. ACCIDENTAL RELEASE MEASURES

Personal precautions and Protective equipment
Personal Protection, see section 8. Evacuate surrounding area. Keep unnecessary personnel from entering. Any individual not wearing protective equipment should not enter spill or contaminated area until all clean-up has been completed.

Emergency procedures
For personal emergency procedures see section 4. For fire emergency procedures see section 5. Contain spilled oil liquid if possible without posing any risk or personal injury.

Environmental precautions
Prevent spreading over a wide area. Contain spill immediately. Contact appropriate authorities of spill. Do not allow spill to enter sewer system, drains of any kind, surface water or water courses. Avoid flushing to such areas as well.

Methods and materials for containment and cleaning up

Soak up or absorb with appropriate inert materials such as, sand, clay, silica gel, acid binder, universal binder, sawdust, paper fiber etc. Large spills may be picked up using vacuum pumps, shovels, buckets or other means of transfer and placed into drums or any other approved and suitable containers.

7. HANDLING AND STORAGE

Precautions for safe handling

Conditions for safe storage

Store in only approved and marked containers. Keep containers closed when not in use and during transportation. Keep containers away from flame or other ignition sources. The container choice, for example storage vessel, may effect static accumulation and dissipation. Do not store in open or unlabeled containers. Keep away from incompatible materials.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limits/standards for materials that can be formed when handling this product: When mists/aerosols can occur, the following are recommended: 5 mg/m³ - ACGIH TLV (inhalable fraction), 5 mg/m³ - OSHA PEL.

NOTE: Limits/standards shown for guidance only. Follow applicable regulations. No biological limits allocated.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider: No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

RESPIRATORY PROTECTION: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include: No special requirements under ordinary conditions of use and with adequate ventilation. For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.
Safety Data Sheet

HAND PROTECTION: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include: No protection is ordinarily required under normal conditions of use.

EYE PROTECTION: If contact is likely, safety glasses with side shields are recommended.

SKIN AND BODY PROTECTION: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include: No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

SPECIFIC HYGIENE MEASURES: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS
Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Liquid</td>
</tr>
<tr>
<td>Color</td>
<td>Amber</td>
</tr>
<tr>
<td>Odor</td>
<td>Characteristic</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>N/D</td>
</tr>
<tr>
<td>Relative Density (at 15°C)</td>
<td>0.889</td>
</tr>
<tr>
<td>Flash Point [Method]</td>
<td>&gt;227°C (441°F) [ASTM D-92]</td>
</tr>
<tr>
<td>Flammable Limits (Approximate volume % in air)</td>
<td>LEL: 0.9 UEL: 7.0</td>
</tr>
<tr>
<td>Autoignition Temperature</td>
<td>N/D</td>
</tr>
<tr>
<td>Boiling Point / Range</td>
<td>&gt; 316°C (600°F)</td>
</tr>
<tr>
<td>Vapor Density (Air = 1)</td>
<td>&gt; 2 at 101 kPa</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>&lt; 0.013 kPa (0.1 mm Hg) at 20°C</td>
</tr>
<tr>
<td>Evaporation Rate (n-butyl acetate = 1)</td>
<td>N/D</td>
</tr>
<tr>
<td>pH</td>
<td>N/A</td>
</tr>
<tr>
<td>Log Pow (n-Octanol/Water Partition Coefficient)</td>
<td>&gt; 3.5</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>Negligible</td>
</tr>
<tr>
<td>Viscosity</td>
<td>220 cSt (220 mm²/sec ) at 40°C</td>
</tr>
<tr>
<td></td>
<td>19 cSt (19 mm²/sec) at 100°C</td>
</tr>
<tr>
<td>Oxidizing Properties</td>
<td>See Hazards Section</td>
</tr>
</tbody>
</table>

Dyna-Plex 21C® Glass Machine Oil
Safety Data Sheet

OTHER INFORMATION

Freezing Point  N/D
Melting Point  N/A
Pour Point  0°C (32°F)
DMSO Extract (mineral oil only), IP-346 < 3 %wt

10. STABILITY AND REACTIVITY

Reactivity: See sub-sections below.
Chemical stability: Material is stable under normal conditions.
Possibility of hazardous reactions: Hazardous polymerization will not occur.
Conditions to avoid: Excessive heat. High energy sources of ignition.
Incompatible materials: Strong oxidizers
Hazardous decomposition products: Material does not decompose at ambient temperatures.

11. TOXICOLOGICAL INFORMATION

Acute oral toxicity: No data available
Acute inhalation toxicity: No data available

12. ECOLOGICAL INFORMATION

Biodegradability: Expected to be inherently biodegradable
Bioaccumulation: Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.
Toxicity to fish: Not expected to be harmful to aquatic organisms.
Toxicity to daphnia and other aquatic invertebrates: Not expected to be harmful to aquatic organisms.
Toxicity to algae: Not expected to be harmful to aquatic organisms.
Toxicity to bacteria: Not expected to be harmful.

13. DISPOSAL CONSIDERATIONS

Disposal methods

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

Dyna-Plex 21C® Glass Machine Oil
Safety Data Sheet

EMPTY CONTAINER
Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

14. TRANSPORT INFORMATION
U.S. DOT Road/Rail/Waterways: Not dangerous/hazardous goods
Transport Canada Road/Rail/Waterways: Not dangerous/hazardous goods

15. REGULATORY INFORMATION
The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

Federal Regulatory Status

Notification Status
EINECS All components listed
DSL All components listed
TSCA All components listed

SARA Hazard Categories (311/312)
No SARA 311/312 hazards

State Regulatory Status
California Safe Drinking Water and Toxic Enforcement Act (Proposition 65)
This material does not contain any chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

NFPA Hazard Classification
Health: 1
Flammability: 1
Reactivity: 0

NFPA Hazard Classification
HMIS Classification
Health: 1
Flammability: 1
Physical Hazards: 0
Personal Protection: B

HEALTH 1
FLAMMABILITY 1
PHYSICAL HAZARD 0
16. OTHER INFORMATION

The information and recommendations contained within this document are believed by PetroChoice to be accurate and reliable as of the date prepared. The information and recommendations are offered for the user's consideration and analysis and in no way guarantee the chemical specifications for the specified product. It is solely the responsibility of the user to determine safe conditions for use of this product and to assume liability for any loss, damage or expense arising out of the product's improper use. The user should consider the information in this document in the context of how the selected product will be handled and used in conjunction with other products. It is the user’s responsibility to determine that the product is suitable for the intended use.

Appropriate warnings and safe-handling procedures should be provided to all handlers and users. PetroChoice assumes no responsibility for any damage or injury resulting from abnormal use or from any failure to adhere to recommended practices within this document.

Rev. Date: 9/29/2017