## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

**Products governed by this MSDS:** PCPA-##-ETA, PCPM-##-ETA, PCPN-##-ETA, PCPB-##-ETA, PCPG-##-ETA, PC18-##-ETA, PCPR-##-ETA, PCPA-#-##-ETA, PCPM-#-##-ETA, PCPN-#-##-ETA, PCPB-#-##-ETA, PCPG-#-##-ETA, PC18-#-##-ETA, PCPR-#-##-ETA PC20-#-##-ETA. Where "##"are any numeric combination.

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Baltimore, MD 21224
Phone: (443) 529-8310 Fax: (410) 631-5161
msds@pixelligent.com

**Emergency Phone Number:**
Chemtrec Domestic North America: 800-424-9300
Chemtrec International: 703-527-3887

## 2. HAZARD IDENTIFICATION

**GHS Classification**
Highly Flammable Liquid and Vapor (Category 2)
Skin irritation (Category 2)
Eye irritation (Category 2A)
Specific target organ toxicity - single exposure (Category 3)

**GHS Label elements**

Precautionary pictograms:

Signal word: DANGER

Hazard statements:

| | |
|---|---|
| H225 | Highly Flammable Liquid and Vapor |
| H315 | Causes skin irritation. |
| H319 | Causes serious eye irritation. |
| H335 + H336 | May cause respiratory irritation. May cause drowsiness or dizziness. |

Precautionary statements:
Prevention:

| | |
|---|---|
| P210 | Keep away from heat/sparks/open flames/hot surfaces – No smoking. |
| P233 | Keep container tightly closed. |
| P240 | Ground/bond container and receiving equipment |
| P241 | Use explosion-proof electrical/ventilating/lighting equipment etc… |
| P242 | Use only non-sparking tools. |
| P243 | Take precautionary measures against static discharge. |
| P261 | Avoid breathing dust/fume/gas/mist/vapours/spray. |

| | |
|---|---|
| P264 | Wash hands thoroughly after handling. |
| P271 | Use only outdoors or in a well-ventilated area |
| P280 | Wear protective gloves/protective clothing/eye protection/face |
| | Response: |
| P304+P340 | IF INHALED: Remove victim to fresh air and keep at rest in a position 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. |
| P312 | Call a POISON CENTER or doctor/physician if you feel unwell. |
| P337+P313 | if eye irritation persists: Get medical advice/attention. |
| P303+P361+P353 | IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. |
| P370+P378 | In case of fire: Use dry sand, foam, carbon dioxide or dry chemical powder extinguisher for extinction. |
| P302+P352: | IF ON SKIN: Wash with plenty of water. If irritation persists, repeat flushing. |
| P332+P313: | If skin irritation occurs: Get medical advice/attention. |
| P362+P364 | Take off contaminated clothing and wash it before reuse |
| | |
| Storage: | |
| P403+P235 | Store in a well ventilated place. Keep cool. |
| P403+P233 | Store in a well ventilated place. Keep container tightly closed. |
| P405 | Store locked up. |
| | |
| Disposal: | |
| P501 | Dispose of contents/container in accordance with all national and local regulations. |

## 3. COMPOSITION/INFORMATION OF INGREDIENTS

| Chemical Name | CAS# | % |
|---|---|---|
| Zirconium dioxide (in nanocrystal form) | 1314-23-4 | 10-90 |
| Ethyl acetate | 141-78-6 | 10-90 |
| Capping Agents | Trade Secret | 2-20 |

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard found at 29 CFR 1910.1200. Exact concentrations are being withheld due to trade secrets and due to variability of concentrations covering the range of products indicated above.

## 4. FIRST AID MEASURES

**Consult a physician. Show this MSDS to the doctor.**

**Eye**
Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 15 minutes, while holding the eyelid(s) open. Obtain medical advice.

**Skin**
Remove contaminated clothing, shoes, and leather goods. Quickly and gently, blot or brush away excess chemical. Wash gently and thoroughly with lukewarm gently flowing water and non-abrasive soap for 15 minutes. If irritation persists, repeat flushing. Obtain medical advice. Completely decontaminate clothing, shoes and leather goods before reuse or discard.

**Inhalation**
Move person to fresh air. Give artificial respiration if needed. If breathing is difficult, qualified personnel should administer oxygen. Get immediate medical attention.

**Ingestion**
Do not induce vomiting unless directed to do so by medical personnel. Get immediate medical attention.

## 5. FIRE AND EXPLOSION DATA

**Extinguishing Media**
Use water fog or spray, universal foam, carbon dioxide or dry chemical.

**Special Fire Fighting Procedures**
Wear an approved, positive pressure, self-contained breathing apparatus and full protective clothing. Cool fire exposed containers with water.

**Unusual Fire Hazards**
Smoke, fumes containing incomplete combustion products. Vapors are heavier than air and may travel along surfaces to remote ignition sources and flash back.

**Hazardous Decomposition Products**
Oxides of carbon.

## 6. ACCIDENTAL RELEASE MEASURES

Remove all ignition sources. Vapor explosion hazard. Wear appropriate protective clothing to prevent eye and skin contact. Ventilate area. Keep out of sewers. Isolate area and keep unnecessary and unprotected personnel from entering the area. Cover with an inert absorbent material and collect into an appropriate container for disposal. Report spills and releases as required to appropriate authorities.

## 7. HANDLING AND STORAGE

**Handling**
Avoid breathing vapors, aerosols and mists. Use with adequate ventilation. Avoid contact with the eyes, skin and clothing.
Vapors are heavier than air and may travel long distances and accumulate in low lying areas. Ignition and/or flashback can occur.
Electrically ground and bond all equipment. Use of non-sparking or explosion-proof equipment may be necessary. Empty containers can contain vapors. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers.
If dried, use PPE in the presence of solid

**Storage**
Store in a cool, dry, well-ventilated location away from incompatible materials. Keep containers closed when not in use.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

| Component | Exposure Limits |
|---|---|
| Zirconium compounds | 5 mg/m$^3$ TWA (OSHA) |
| Ethyl acetate | 400 ppm TWA (NIOSH)<br>400 ppm TWA (OSHA)<br>400 ppm TWA (ACGIH) |
| Capping agents | None Established |

**Respiratory Protection**
If needed, an approved respirator with organic vapor/P100/N100 cartridges may be used. For higher exposures, a supplied air respirator may be required. Respirator selection and use should be based on contaminant type, form and concentration. Follow applicable regulations and good Industrial Hygiene practice. Use with adequate general or local exhaust ventilation to maintain exposure levels below the occupational exposure limits.

**Skin Protection**
Impervious gloves are recommended.

**Eye Protection**
Chemical safety goggles recommended.

**Other Protective Equipment**
Impervious clothing is required to prevent skin contact and contamination of personal clothing. If dried, use PPE in the presence of solid

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Properties shown are for Ethyl Acetate

**Appearance:** Liquid

| | | | |
|---|---|---|---|
| **pH:** | Not applicable | **Specific Gravity:** | 0.902 g/cm3 |
| **Boiling Point:** | 75-78 °C | **Melting Point:** | -83.5 °C |
| **Vapor Pressure:** | 103 mbar @ 20 °C | **Water Solubility:** | Slightly soluble |
| **Vapor Density:** | 3.04 (Air =1.0) | **Flammable Limits: LEL:** | 2.0% |
| **Flash Point:** | -4 °C | **Flammable Limits: UEL:** | 11.5% |
| **Evaporation Rate:** | Not available | | |

## 10. STABILITY AND REACTIVITY

**Incompatibility/Conditions to Avoid**
Strong oxidizers. Keep away from heat, sparks, flames and other sources of ignition.

**Hazardous Decomposition Products**
Combustion will produce oxides of carbon.

## 11. TOXICOLOGICAL INFORMATION

**Health Hazards:**
Eyes: Causes eye irritation. High vapor/aerosol concentrations may be irritating.
Skin: Prolonged or repeated contact with skin may cause redness, itching, irritation and eczema/chapping.
Inhalation: May cause irritation to the mucous membranes and upper respiratory tract. In high concentrations, vapors and aerosol mists have a narcotic effect and may cause headache, fatigue, dizziness and nausea.
Ingestion: Irritating. May cause nausea, stomach pain and vomiting. Ingestion may result in vomiting; aspiration (breathing) of vomitus into lungs must be avoided as even small quantities may result in aspiration pneumonitis.

Target organs: Eyes. Skin. Respiratory system. Central nervous system. Liver. Kidneys.

Chronic effects: organic solvents may be absorbed into the body by inhalation and cause permanent damage to the nervous system, including the brain. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis. May cause eyes, skin, and respiratory irritation.

**No toxicological data available for product**

**Ethyl Acetate Toxicity Data**
Dermal: LD50 (rabbit) – 18,000 mg/kg
Oral: LD50 (rat) – 5,620 mg/kg

## 12. ECOLOGICAL INFORMATION

**No ecological toxicity data available for product**

**Ethyl Acetate Ecological Toxicity Data**
LC50 (gold orfe) 270 mg/L, 48.0 hr
EC50 (water flea) 717 mg/L, 48 hr

## 13. DISPOSAL INFORMATION

Dispose of by incineration.
Any leftover product is to be disposed of by incineration. Disposal in accordance with all local, state and federal regulations (40CFR260-268). Contaminated packaging is to be triple rinsed with appropriate organic solvent/monomer prior to being disposed of. The contaminated rinse solvent/monomer is to be treated as hazardous waste and must be disposed of by incineration. No other disposal method is acceptable.

## 14. TRANSPORT INFORMATION

| | |
|---|---|
| **DOT Shipping Name:** | ETHYL ACETATE Mixture |
| **DOT Hazard Class:** | 3, PG II |
| **UN Number:** | UN1173 |

| | |
|---|---|
| **IATA Shipping Name:** | ETHYL ACETATE Mixture |
| **IATA Hazard Class:** | 3, PG II |
| **UN Number:** | UN1173 |

## 15. REGULATORY INFORMATION

All components of this product are included on the TSCA Inventory or are not required to be listed.

## 16. OTHER INFORMATION

**MSDS Date of Preparation:** 03/22/2015

**Emergency Overview**

Extremely flammable liquid and vapor - vapor may cause flash fire. Will be easily ignited by heat, spark or flames. Causes eye irritation. Harmful if swallowed - may enter lungs if swallowed or vomited. Prolonged or repeated skin contact may cause drying, cracking, or irritation. High vapor concentrations may cause drowsiness and irritation of the eyes or respiratory tract.

Glossary:
IARC = International Agency for Research of Cancer
NTP = National Toxicology Program
OSHA = Occupational Safety and Health Act
TSCA = Toxic substances Control Act

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