

According to Regulation (EC) No. 1907/2006 as amended by (ED) No. 1272/2008

Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1 **Product Code:** 51-0013-01
Product Name: Ink, Ace/Eth Black

1.2 **Relevant Identified uses of the substance or mixture and uses advised against:**

1.3 **Details of the Supplier of the Safety Data Sheet**

| | | | |
|---------------------|--|--------------|------------------|
| Company Name | BestCode | | |
| Address | 3034 SE Loop 820 Fort Worth, Texas, 76149 | | |
| Website | www.bestcode.co | Email | info@bestcode.co |
| Phone | 817-349-8555 | Fax | 817-349-8480 |

1.4 **Emergency Telephone Number**
Emergency Contact Chemtel **Toll Free:** 1-800-255-3924
International: 01-813-248-0585

Section 2. Hazards Identification

2.1 **Classification of the Substance or Mixture:**

2.1.1 **Classification according to Regulation (EC) No 1272/2008 [CLP]:**

Flammable Liquids, Category 2
Serious Eye Damage/Eye Irritation, Category 2A
Specific Target Organ Toxicity (single exposure), Category 3

2.2 **Label Elements:**

2.2.1 **Labeling according to Regulation (EC) No 1272/2008 [CLP]:**



GHS Signal Word: **Danger**

GHS Hazard Phrases:

H201 - Explosive; mass explosion hazard.
H225 - Highly flammable liquid and vapor.
H319 - Causes serious eye irritation.
H335 - May cause respiratory irritation.

GHS Precaution Phrases:

P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P230 - Keep wetted with
P240 - Ground/bond container and receiving equipment.
P250 - Do not subject to grinding/shock/.../friction.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P233 - Keep container tightly closed.
P241 - Use explosion-proof electrical/ventilating/lighting/.../ equipment.
P243 - Take precautionary measures against static discharge.
P242 - Use only non-sparking tools.
P264 - Wash hands thoroughly after handling.
P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.
P271 - Use only outdoors or in a well-ventilated area.

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GHS Response Phrases:

P373 - DO NOT fight fire when fire reaches explosives.

P370+380 - In case of fire, evacuate area.

P372 - Explosion risk in case of fire.

P370+378 - In case of fire, use ... to extinguish.

P303+361+353 - IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.

P305+351+338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337+313 - If eye irritation persists, get medical advice/attention.

P304+340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P312 - Call a POISON CENTER/doctor/... if you feel unwell.

GHS Storage and Disposal Phrases:

P401 - Store

P501 - Dispose of contents/container to

P403+235 - Store in cool/well-ventilated place.

P403+233 - Store container tightly closed in well-ventilated place - if product is as volatile as to generate hazardous atmosphere.

P405 - Store locked up.

2.3 Adverse Human Health Effects and Symptoms:

Prolonged or repeated skin contact may cause defatting and dermatitis.

Chronic: May cause reproductive and fetal effects. Laboratory experiments have shown mutagenic effects. Animal studies have reported the development of tumors. Prolonged exposure may cause liver, kidney, and heart damage.

Prolonged or repeated skin contact may cause dermatitis. Chronic inhalation may cause effects similar to those of acute inhalation.

Matsushita et al. exposed human volunteers 6 hours/day for 6 days at 500 ppm acetone and found hematologic changes including significantly increased leukocyte and eosinophil counts and decreased neutrophil phagocytic activity. Repeated oral administration of TBP has caused pathological changes in the rat bladder.

2.3.1 Inhalation:

Inhalation of high concentrations may cause central nervous system effects characterized by nausea, headache, dizziness, unconsciousness and coma. Causes respiratory tract irritation. May cause narcotic effects in high concentration. Causes upper respiratory tract irritation. Inhalation of vapors may cause drowsiness and dizziness. May cause motor incoordination and speech abnormalities. Inhalation of a mist of this material may cause respiratory tract irritation. Material has a very low vapor pressure at room temperature, so inhalation exposures are not expected unless material is heated or misted. Workers exposed at 15 mg/m³ of TBP have complained of nausea and headache.

2.3.2 Skin Contact:

Causes moderate skin irritation. May cause cyanosis of the extremities. May cause irritation with pain and stinging, especially if the skin is abraded. Isopropanol has a low potential to cause allergic skin reactions; however, rare cases of allergic contact dermatitis have been reported. Dermal absorption has been considered toxicologically insignificant. The cases of deep coma associated with skin contact are thought to be a consequence of gross isopropanol vapor inhalation in rooms with inadequate ventilation, rather than being attributable to percutaneous absorption of isopropanol per se. May be absorbed through the skin. Repeated or prolonged exposure may cause drying and cracking of the skin. Causes skin irritation. A single prolonged skin exposure is not likely to result in the material being absorbed in harmful amounts. Tributyl phosphate was non-sensitizing after dermal application in guinea pigs.

2.3.3 Eye Contact:

Causes severe eye irritation. May cause painful sensitization to light. May cause chemical conjunctivitis and corneal damage. Produces irritation, characterized by a burning sensation, redness, tearing, inflammation, and possible corneal injury. May cause transient corneal injury. Vapors may cause eye irritation. Causes eye irritation.

2.3.4 Ingestion:

May cause systemic toxicity with acidosis. May cause central nervous system depression, characterized by excitement, followed by headache, dizziness, drowsiness, and nausea. Advanced stages may cause collapse, unconsciousness, coma and possible death due to respiratory failure. Causes gastrointestinal irritation with nausea, vomiting and diarrhea. May cause kidney damage. Aspiration of material into the lungs may cause chemical pneumonitis, which may be fatal. The probable oral lethal dose in humans is 240 ml (2696 mg/kg), but ingestion of only 20 ml (224 mg/kg) has, but in gestion of only 20 ml (224 mg/kg) has caused poisoning. May cause irritation of the digestive tract. May be harmful if swallowed.

Section 3. Composition/Information on Ingredients

| CAS # | Hazard components (Chemical Name)/ Reach Registration No. | Concentration | EC No./ EC Index No. | GHS Classification |
|-----------|--|---------------|---------------------------|---|
| 64-17-5 | Ethyl alcohol | 14.25 -38.0 % | 200-578-6 603-002-00-5 | Flam. Liq. 2: H225 |
| 67-63-0 | Isopropyl alcohol | 0.75 -2.0 % | 200-661-7 603-117-00-0 | Flam. Liq. 2: H225 Eye Damage 2: H319 STOT (SE) 3: H335 H336 |
| 67-64-1 | Acetone | 30.0 -60.0 % | 200-662-2 606-001-00-8 | Flam. Liq. 2: H225 Eye Damage 2: H319 STOT (SE) 3: H335 H336 |
| 9004-70-0 | Nitrocellulose | 15.0 -40.0 % | NA NA | Explosive 1.1: H201 STOT (SE) 3: H335 H336 |

Section 4. First Aid Measures

4.1 Description of First Aid Measures:

In Case of Inhalation:

Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid. Do NOT use mouth-to-mouth resuscitation. If inhaled, remove to fresh air. Remove victim to fresh air. If not breathing give artificial respiration.

In Case of Skin

Contact:

Wash clothing before reuse. In case of contact, flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical aid if irritation develops and persists. Flush with copious amounts of water for at least 15 minutes. Call a physician.

In Case of Eye

Contact:

Get medical aid. Gently lift eyelids and flush continuously with water. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

In Case of Ingestion:

If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Potential for aspiration if swallowed. Get medical aid immediately. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs naturally, have victim lean forward. Wash out mouth with water provided person is conscious. Call a physician. If swallowed, do not induce vomiting unless directed to do so by medical personnel. Get medical aid.

4.2 Important Symptoms and Effects, Both Acute and Delayed:

Prolonged exposure can cause: Nausea. Headache. Vomiting, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Narcotic effect.

Note for the Doctor:

Treat symptomatically and supportively. Persons with skin or eye disorders or liver, kidney, chronic respiratory diseases, or central and peripheral nervous system diseases may be at increased risk from exposure to this substance.

Antidote: Replace fluid and electrolytes. Urine acetone test may be helpful in diagnosis. Hemodialysis should be considered in severe intoxication.

Section 5. Fire Fighting Measures

5.1 Suitable Extinguishing Media:

For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam. Water may be ineffective. Do NOT use straight streams of water. For small fires, use carbon dioxide, dry chemical, dry sand, or alcohol-resistant foam. Cool containers with flooding quantities of water until well after fire is out. Use dry chemical, carbon dioxide, or appropriate foam. Water may be ineffective because it will not cool material below its flash point. For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water. Use water spray, dry chemical, carbon dioxide, or appropriate foam.

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- 5.2 Flammable Properties and Hazards:** EXPLOSION HAZARDS.
Vapor may travel considerable distance to source of ignition and flash back. Container explosion may occur under fire conditions.
Dry material is an explosive.
- | | | | |
|----------------------------|------------|---------------------|----------|
| Flash Point: | > -20.00 C | Method Used: | Estimate |
| Explosive Limits: | LEL: | | UEL: |
| Autoignition Point: | >350.00 C | | |
- 5.3 Fire Fighting Instructions:** Replace fluid and electrolytes. As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors may form explosive mixtures with air. Vapors can travel to a source of ignition and flash back. Will burn if involved in a fire. Can release vapors that form explosive mixtures at temperatures above the flashpoint. Use water spray to keep fire-exposed containers cool. Flammable liquid and vapor. May form explosive peroxides. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Extremely flammable liquid and vapor. Vapor may cause flash fire. Vapors are heavier than air and may travel to a source of ignition and flash back. Vapors can spread along the ground and collect in low or confined areas. Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
- Specific Hazard(s): Flammable Liquid. Emits toxic fumes under fire conditions. Dry material is an explosive.
- Specific Method(s) of Fire Fighting: Use water spray to cool fire-exposed containers. Containers may explode in the heat of a fire.

Section 6. Accidental Release Measures

- 6.1 Protective Precautions, Protective Equipment and Emergency Procedures:**
- 6.2 Environmental Precautions:**
- 6.3 Methods and Material for Containment and Cleaning Up:** Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation. A vapor suppressing foam may be used to reduce vapors. Use water spray to dilute spill to a non-flammable mixture. Clean up spills immediately, observing precautions in the Protective equipment section. Avoid runoff into storm sewers and ditches which lead to waterways. Wear appropriate protective clothing to minimize contact with skin. Water spray may reduce vapor but may not prevent ignition in closed spaces. Use only non-sparking tools and equipment.
PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL.
Evacuate area. Shut off all sources of ignition. Use non-sparking tools.
PROCEDURE(S) OF PERSONAL PRECAUTION(S)
Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.
- METHODS FOR CLEANING UP**
Do not attempt to sweep up dry material. Dampen with water prior to sweeping or shoveling. Immediately soak spilled material with water and remove to covered metal containers. Add water to containers. Do not allow material to become dry.

Section 7. Handling and Storage

7.1 Precautions to be taken when Handling:

Wash thoroughly after handling. Use only in a well-ventilated area. Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Keep away from heat, sparks and flame. Avoid ingestion and inhalation. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Remove contaminated clothing and wash before reuse. Take precautionary measures against static discharges. Avoid breathing dust, mist, or vapor. Do not allow to evaporate to near dryness. Use only with adequate ventilation. Avoid breathing vapor.

User Exposure: Do not get in eyes, on skin, on clothing. Do not breathe vapor.
Explosion: Dry material is an explosive. Container explosion may occur under fire conditions. Use with adequate ventilation. Avoid breathing vapors from heated material. Avoid breathing spray or mist. Temperatures from 80-100°F (27-37.8°C) provide good rates of flow.

7.2 Precautions to be Taken in Storing:

Keep away from heat, sparks and flame. Keep away from sources of ignition. Store in a tightly closed container. Keep from contact with oxidizing materials. Store in a cool, dry, well-ventilated area away from incompatible substances. Flammables-area. Do not store near perchlorates, peroxides, chromic acid or nitric acid. Do not store in direct sunlight. After opening, purge container with nitrogen before reclosing. Periodically test for peroxide formation on long-term storage. Addition of water or appropriate reducing materials will lessen peroxide formation. Store protected from moisture. Containers should be dated when opened and tested periodically for the presence of peroxides. Should crystals form in a peroxidizable liquid, peroxidation may have occurred and the product should be considered extremely dangerous. In this instance, the container should only be opened remotely by professionals. All peroxidizable substances should be stored away from heat and light and be protected from ignition sources. Keep container closed. Keep away from heat, sparks, and open flame. Store away from heat and direct sunlight.
Incompatible Materials: Avoid all contact with strong acids and strong bases, Oxidizing agents, Amines,

SPECIAL REQUIREMENTS:
Do not allow material to become dry. Store in a cool, dry place.

Section 8. Exposure Controls/Personal Protection

8.1 Exposure Parameters

| CAS# | Partial Chemical Name | Britain EH40 | France VL | Europe |
|-----------|-----------------------|--|--|-----------------------------|
| 64-17-5 | Ethyl alcohol | TWA: 1920 mg/m ³ (1000 ppm) STEL: () | TWA: 1900 mg/m ³ (1000 ppm) STEL: 9500 mg/m ³ (5000ppm) | |
| 67-63-0 | Isopropyl alcohol | TWA: 999 mg/m ³ (400 ppm) STEL: 1250 mg/m ³ (500 ppm) | STEL: 980 mg/m ³ (400 ppm) | |
| 67-64-1 | Acetone | TWA: 1210 mg/m ³ (500 ppm) STEL: 3620 mg/m ³ (1500 ppm) | TWA: 1210 mg/m ³ (500 ppm) STEL: 2420 mg/m ³ (1000 ppm) | TWA: 1210 mg/m ³ |
| 9004-70-0 | Nitrocellulose | | | |

| CAS# | Partial Chemical Name | OSHA TWA | ACGIH TWA | Other Limits |
|-----------|-----------------------|---------------|-------------------------------|--------------|
| 64-17-5 | Ethyl alcohol | PEL: 1000 ppm | TLV: 1000 ppm | |
| 67-63-0 | Isopropyl alcohol | PEL: 400 ppm | TLV: 200 ppm STEL: 400 ppm | |
| 67-64-1 | Acetone | PEL: 1000 ppm | TLV: 500 ppm STEL: 750 ppm | |
| 9004-70-0 | Nitrocellulose | | | |

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8.2 Exposure Controls

8.2.1 Engineering Controls: (Ventilation etc.):

Use explosion-proof ventilation equipment. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits. Ventilation fans and other electrical service must be non-sparking and have an explosion-proof design. Safety shower and eye bath. Use nonsparking tools. Mechanical exhaust required.

8.2.2 Personal Protection Equipment: Eye Protection:

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166. Wear chemical splash goggles. Chemical safety goggles.

Protective Gloves:

Wear appropriate protective gloves to prevent skin exposure. Wear butyl rubber gloves, apron, and/or clothing. Rubber gloves.

Other Protective Clothing:

Wear appropriate protective clothing to prevent skin exposure..

Respiratory Equipment (Specify Type):

A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use. A NIOSH/MSHA approved or European Standard EN 149 air purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

(EU). Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi- purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator.

Work/Hygienic/Maintenance Practices:

Wash thoroughly after handling.

Section 9. Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

| | | | |
|------------------------------------|------------------------------|--|--------------------------------|
| Physical States: | <input type="checkbox"/> Gas | <input checked="" type="checkbox"/> Liquid | <input type="checkbox"/> Solid |
| Appearance and Odor: | Dark. Solvent odor. | | |
| Melting Point: | -114.10 C - -88.00 C | | |
| Boiling Point: | 56.50 C - 289.00 C | | |
| Flash Pt: | > -20.00 C | Method Used: | Estimate |
| Evaporation Rate: | 7.7 (BuAC=1) | | |
| Explosive Limits: | LEL: | | UEL: |
| Vapor Pressure (vs. Air or mm Hg): | 185 MM_HG at 20.0 C | | |
| Vapor Density (vs. Air = 1): | > Air | | |
| Specific Gravity (Water = 1): | .844 | | |
| Density: | ~ 7.1 LB/GA | | |
| Solubility in Water: | Miscible | | |
| Autoignition Pt: | 350.00 C | | |

9.2 Other Information

Percent Volatile: > 83.0 % by volume.

Section 10. Stability and Reactivity

10.1 Reactivity

10.2 Stability Unstable ☐ Stable ☒

10.3 Conditions To Avoid -

Hazardous Reactions:

Possibility of Hazardous Reactions: Will occur ☐ Will not occur ☒

| | | |
|-------------|--|--|
| 10.4 | Conditions to Avoid - Instability | Incompatible materials, ignition sources, Excess heat, Light, High temperatures, confined spaces, May be shock-sensitive if dry. Moisture. |
| 10.5 | Incompatibility – Materials to Avoid | Strong oxidizing agents, acids, Alkali metals, Ammonia, hydrazine, Peroxides, Sodium, Acid anhydrides, calcium hypochlorite, chromyl chloride, nitrosyl perchlorate, bromine pentafluoride, Perchloric acid, silver nitrate, mercuric nitrate, potassium tert-butoxide, magnesium perchlorate, Acid chlorides, platinum, uranium hexafluoride, silver oxide, iodine heptafluoride, acetyl bromide, disulfuryl difluoride, tetrachlorosilane + water, acetyl chloride, permanganic acid, ruthenium (VIII) oxide, uranyl perchlorate, Strong acids, Amines, ethylene oxide, isocyanates, acetaldehyde, chlorine, phosgene, Attacks some forms of plastics, rubbers, and coatings. aluminum at high temperatures. Strong reducing agents, Strong bases, Nitric acid, hexachloromelamine, sulfur dichloride, Oxidizing agents, Bases, Halogens, alkalis. |
| 10.6 | Hazardouts Decomposition or Byproducts: | Carbon monoxide, irritating and toxic fumes and gases, Carbon dioxide, Nitrogen oxides, methane. Aldehydes, carboxylic acids, Hydrogen cyanide, oxides of phosphorus, n-butanol. |

Section 11. Toxicological Information

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| 11.1 Information of Toxicological Effects: | ROUTE OF EXPOSURE: Skin Contact: Causes skin irritation. Skin Absorption: May be harmful if absorbed through the skin. Eye Contact: Causes eye irritation. Inhalation: May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract. Ingestion: May be harmful if swallowed. |
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| Chronic Toxicological Effects: | TARGET ORGAN(S) OR SYSTEM(S) Kidneys. Liver. Cardiovascular system. Gastrointestinal System. Nerves. Epidemiology: No information available. Teratogenicity: No information available. Reproductive Effects: Mutagenicity: Neurotoxicity: Other Studies: |
| | Carcinogen. |
| | Result: This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification. |
| Carcinogenicity/Other Information: | CAS# 64-17-5: Not listed by ACGIH, IARC, NTP, or CA Prop 65. CAS# 67-63-0: Not listed by ACGIH, IARC, NTP, or CA Prop 65. CAS# 67-64-1: Not listed by ACGIH, IARC, |
| | NTP, or CA Prop 65. CAS# 126-73-8: Not listed by ACGIH, IARC, NTP, or CA Prop 65. |
| Carcinogenicity: | NTP? No IARC Monographs? No OSHA Regulated? No |

Section 12. Ecological Information

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|------------------------------|---|
| <p>12.1 Toxicity:</p> | <p>When released to the atmosphere it will photodegrade in hours (polluted urban atmosphere) to an estimated range of 4 to 6 days in less polluted areas. Rainout should be significant.</p> <p>Physical: No information available.</p> <p>Ecotoxicity: Fish: Fathead Minnow: 1000 ppm; 96h; LC50Daphnia: 1000 ppm; 96h; LC50Fish: Gold orfe: 8970-9280 ppm; 48h; LC50 IPA has a high biochemical oxygen demand and a potential to cause oxygen depletion in aqueous systems, a low potential to affect aquatic organisms, a low potential to affect secondary waste treatment microbial metabolism, a low potential to affect the germination of some plants, a high potential to biodegrade (low persistence) with unacclimated microorganisms from activated sludge.</p> <p>No information available.</p> <p>Physical: THOD: 2.40 g oxygen/gCOD: 2.23 g oxygen/gBOD-5: 1.19-1.72 g oxygen/g.</p> <p>Other: No information available. Environmental: Volatilizes, leeches, and biodegrades when released to soil.</p> <p>TERRESTRIAL FATE: If released on soil, acetone will both volatilize and leach into the ground. Acetone readily biodegrades and there is evidence suggesting that it biodegrades fairly rapidly in soils.</p> <p>AQUATIC FATE: If released into water, acetone will probably biodegrade. It is readily biodegradable in screening tests, although data from natural water are lacking. It will also be lost due to volatilization (estimated half-life 20 hr from a model river). Adsorption to sediment should not be significant.</p> |
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Physical: ATMOSPHERIC FATE: In the atmosphere, acetone will be lost by photolysis and reaction with photochemically produced hydroxyl radicals. Half-life estimates from these combined processes are 79 and 13 days in January and June, respectively, for an overall annual average of 22 days. Therefore considerable dispersion should occur. Being miscible in water, wash out by rain should be an important removal process. This process has been confirmed around Lake Shinsei-ko in Japan. There acetone was found in the air and rain as well as the lake.

TERRESTRIAL FATE: If applied to soil, tributyl phosphate would be expected to adsorb to soil and biodegrade. Tributyl phosphate applied to land as sludge, tilled and irrigated with wastewater was completely degraded.

AQUATIC FATE: If released in water, tributyl phosphate will adsorb to sediment and particulate matter in the water column and biodegrade. In a study of contamination of the lower Weser River, Germany it was found that in the high water periods in the cold months (flow rate 400 cu m/s, avg temp 6.9 deg C).

Physical: ATMOSPHERIC FATE: In the atmosphere, tributyl phosphate should exist primarily as a vapor, based upon the vapor pressure of 1.2×10^{-4} mm Hg at 25 deg C and degrade due to reaction with photochemically-produced hydroxyl radicals. Its estimated half-life with hydroxyl radical is 4.9 hr. Tributyl phosphate partitions into fog water in the atmosphere to an extent which is ten times greater than that predicted from the Henry's Law constant. The aqueous-phase enrichment is 1.6 million as determined from the concentrations in fog water and interstitial air.

Other: According to a suggested classification scheme, this estimated Koc suggests that tributyl phosphate would have low mobility in soil.

- 12.2 Persistence and Degradability:
- 12.3 Bioaccumulative Potential:
- 12.4 Mobility in Soil:
- 12.5 Results of PBT and vPvB assessment:

Section 13. Disposal Considerations

- 13.1 Waste Disposal Method:** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.
RCRA P-Series: None listed.
RCRA U-Series: None listed. RCRA U-Series:
CAS# 67-64-1: waste number U002 (Ignitable waste): waste number U154.
APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION.
Contact a licensed professional waste disposal service to dispose of this material.
Observe all federal, state, and local environmental regulations.

Section 14. Transport Information

GHS Classification Flammable Liquids, Category 2 - Danger! Highly flammable liquid and vapor
Serious Eye Damage/Eye Irritation, Category 2 - Warning! Causes serious eye irritation
Specific Target Organ Toxicity (single exposure), Category 3 - Warning! May cause respiratory irritation, or may cause drowsiness and dizziness

14.1 LAND TRANSPORT (US DOT):

DOT Proper Shipping Name: Printing ink, [flammable or] Printing ink related material [(including printing ink thinning or reducing compound), flammable]

DOT Hazard Class: 3 FLAMMABLE LIQUID
UN/NA Number: UN 1210 **Packing Group:** II

14.2 LAND TRANSPORT (Canadian TDG):

Printing ink, [flammable or] Printing ink related material [(including printing ink thinning or reducing compound), flammable]
UN Number: 1210 **Packing Group:** II
Hazard Class: 3 – FLAMMABLE LIQUID **TDG Classification:**

14.3 LAND TRANSPORT (European ADR/RID):

ADR/RID Shipping Name:

UN Number

Hazard Class

1210

3 – FLAMMABLE LIQUID

Packing Group:

II

14.4 AIR TRANSPORT (ICAO/IATA):

ICAO/IATA Shipping Name:

Printing ink, [flammable or] Printing ink related material [(including printing ink thinning or reducing compound), flammable]

Section 15. Regulatory Information

Canadian WHMIS Classification:

CLASS B, DIVISION 2: Flammable Liquids

CLASS D, DIVISION 2, SUBDIVISION A: Very Toxic Materials (carcinogens, reproductive toxicity, etc.)

Section 16. Other Information

Revision Date:

6/17/2015

Additional Information About this Product:

Company Policy or Disclaimer

The information and recommendations contained herein are, to the best of BestCode's knowledge and belief, accurate and reliable as of the date issued. Because many factors may affect processing or application/use, BestCode recommend that you make tests to determine the suitability of a product for your particular purpose prior to use. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted. In no case shall the descriptions, information, data or designs provided be considered a part of our terms and conditions of sale. Further, you expressly understand and agree that the descriptions, designs, data and information furnished by BestCode hereunder are given gratis and BestCode assumes no obligation or liability for the description, designs, data and information given or results obtained. All such being given and accepted at your risk.