

Safety Data Sheet

Date: 12/10/2020
Revision: B

Product Number: 52-0042-01
Product Name: Ink, GP Lite Black

Based upon Regulation (EC) No 1907/2006, as amended by Regulation (EU) 2015/830

Section 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product Identifier

Product Name: Ink, GP Lite Black
Product Code: 52-0042-01

1.2 Relevant identified uses of the substance or mixture and uses advised against

Product Use: Printing ink for use in BestCode CIJ

1.3 Details of the supplier of the safety data sheet

BestCode
3034 SE Loop 820
Fort Worth, TX 76140
817-349-8555

For further information, please contact Customer Service:

Customer Service: 817-349-8555
Email: Info@Bestcode.co

1.4 Emergency telephone number

Emergency Contact: Local Poison Information Center
Chem Tel. Inc. Toll Free 800-255-3924
International 813-248-0585

Section 2: Hazards identification

2.1 Classification of the mixture in accordance with Article 40 of Regulation (EC) No 1272/2008

GHS Rating:

Flammable Liquids, Category 2
Specific Target Organ Toxicity (single exposure), Category 3
Flammable Liquids, Category 3
Acute Toxicity: Oral, Category 4
Skin Corrosion/Irritation, Category 2

2.2 Label elements



Signal word: Danger

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Hazard statements:

- H225 - Highly flammable liquid and vapor.
- H226 - Flammable liquid and vapor.
- H302 - Harmful if swallowed.
- H315 - Causes skin irritation.
- H318 - Causes serious eye damage.
- H319 - Causes serious eye irritation.
- H335 - May cause respiratory irritation.

Precautionary statements:

- 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 equipment.
- P242 - Use only non-sparking tools.
- P243 - Take precautionary measures against static discharge.
- P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
- P264 - Wash hands thoroughly after handling.
- P270 - Do not eat, drink or smoke when using this product.
- P271 - Use only outdoors or in a well-ventilated area.
- P280 - Wear protective gloves/protective clothing/eye protection/face protection.
- P301+312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
- P302+352 - IF ON SKIN: Wash with plenty of soap and water.
- P303+361+353 - IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
- P304+340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- P305+351+338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P310 - Immediately call a POISON CENTER/doctor/...
- P312 - Call a POISON CENTER/doctor/... if you feel unwell.
- P321 - Specific treatment see ... on this label.
- P330 - Rinse mouth.
- P332+313 - If skin irritation occurs, get medical advice/attention.
- P337+313 - If eye irritation persists, get medical advice/attention.
- P362+364 - Take off contaminated clothing and wash it before reuse.
- P370+378 - In case of fire, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam to extinguish.
- P403+235 - Store in cool/well-ventilated place.
- P403+233 - Store container tightly closed in well-ventilated place.
- P405 - Store locked up.
- P501 - Dispose of contents/container in accordance with local regulations

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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. Chronic inhalation may cause effects similar to those of acute inhalation. Animal studies have reported that fetal effects/abnormalities may occur when maternal toxicity is seen. Chronic overexposure to vapors may cause lung damage. Not available. Repeated eye exposure may cause visual abnormalities including blurred vision and photosensitivity. Repeated exposure in combination with constant, load noise can produce hearing loss and vertigo.

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 central nervous system effects such as nausea and headache. Neurobehavioural effects of exposure to MEK (200 ppm for 4 hrs) were studied with 137 volunteers. There were no statistically significant effects observed in biochemical, psychomotor, sensorimotor and psychological tests. May cause respiratory tract irritation. May be harmful if inhaled. Exposure causes central nervous system depression with possible headache, dizziness, and drowsiness. May cause lung hemorrhage, blood disturbances, and liver and kidney abnormalities.

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 in harmful amounts. Repeated or prolonged exposure may cause drying and cracking of the skin. Only one human case of skin sensitization was located. Negative results were obtained in an animal test; MEK did not produce skin sensitization in the mouse ear thickness test. Causes skin irritation. Prolonged and/or repeated contact may cause defatting of the skin and dermatitis. Although n-butanol can enter the circulation after topical application, the absorbed dose is insignificant compared to that from other routes.

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. Causes eye irritation. Vapors may cause eye irritation. Animal evidence suggests that MEK is a moderate to severe eye irritant. May result in corneal injury. May cause eye irritation and possible damage. Risk of serious damage to eyes. Vapors appear to cause a special vacuolar keratopathy in humans.

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. Possible aspiration hazard. May cause central nervous system depression. Animal evidence suggests that MEK can be aspirated (inhaled) into the lungs during ingestion or vomiting.

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Harmful if swallowed. Aspiration hazard. May cause liver damage.

Section 3: Composition/information on ingredients

3.1 Substances:

3.2 Mixtures:

CAS #	EC #	Hazardous components / REACH Registration No.	Concentration	GHS Classification
78-93-3	201-159-0	Methyl Ethyl Ketone	60.0 – 79.9%	Flam. Liq. 2: H225; Eye Irrit. 2: H319; STOT SE 3: H336;
67-63-0	200-661-7 603-117-00-0	Isopropyl alcohol	0.5 -1.5 %	Flam. Liq. 3 STOT (SE) 3
71-36-3	200-751-6 603-004-00-6	n-Butyl alcohol	1.0 -5.0 %	Flam. Liq. 3 Acute Tox.(O) 4: Skin Corr. 2 Eye Damage 1 STOT (SE) 3
64-17-5	200-578-6 603-002-00-5	Ethyl alcohol	9.5-28.5%	Flam. Liq. 2: H225

Section 4: First Aid Measures

4.1 Description of first aid measures

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.

Eyes: Get medical aid. Gently lift eyelids and flush continuously with water. In case of contact, immediately flush eyes with plenty of water for a t least 15 minutes. Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids.

Skin: 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. Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

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. Get medical aid. Wash mouth out with water.

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4.2 Most Important symptoms and effects, both acute and delayed

4.3 Indication of any immediate medical attention and special treatment needed

Notes to 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 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. In case of fire, use carbon dioxide, dry chemical powder or appropriate foam. Water may be ineffective because it will not cool material below its flash point. Use water spray, dry chemical, carbon dioxide, or chemical foam.

5.2 Special hazards arising from the substance or mixture

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

5.3 Advice for firefighters

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. Extremely flammable liquid and vapor. Vapor may cause flash fire. Flammable Liquid.

Section 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

6.1.1 For non-emergency personnel

Evacuate

6.1.2 For emergency responders

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

6.2 Environmental Precautions

Do not let this chemical enter the environment.

6.3 Methods and material for containment and cleaning up

6.3.1 For Containment:

Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Clean up spills immediately, observing precautions in the Protective Equipment section. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation. Sweep up, then place into a suitable container for disposal. Avoid generating dusty conditions. Personal precautions.

6.3.2 Clean up and disposal of spill:

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Sweep up or absorb material, then place into a suitable clean, dry, closed container for disposal. Wear a self contained breathing apparatus and appropriate personal protection. (See Exposure Controls, Personal Protection section).

Section 7: Handling and storage

7.1 Precautions for safe 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



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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. Avoid contact with skin and eyes. Use only in a chemical fume hood.

7.2 Conditions for safe storage, including any compatibilities

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. Store in a cool, dry place.

7.3 Specific end use(s)

Fluid delivery to BestCode Series 8 CIJ. Follow safety instructions outlined in 7.1 & 7.2 while handling. Observe warnings provided with BestCode Series 8 CIJ system when installing and handling fluids.

Section 8: Exposure control/personal protection

8.1 Control parameters

CAS #	Hazardous components	ACGIH TLV	Australia	Austria
78-93-3	Methyl Ethyl Ketone	TLV: 200 ppm STEL: 300 ppm	TWA: 295 mg/m ³ (100 ppm) STEL: 590 mg/m ³ (200 ppm)	TWA: 445 mg/m ³ (150 ppm) STEL: 890 mg/m ³ (300 ppm)
67-63-0	Isopropyl alcohol	TLV: 200 ppm STEL: 400 ppm	TWA: 500 mg/m ³ (200 ppm) STEL: 2000 mg/m ³ (800 ppm)	TWA: 983 mg/m ³ (400 ppm) STEL: 1230 mg/m ³ (500 ppm)
71-36-3	n-Butyl alcohol	TLV: 20 ppm	TWA: 150 mg/m ³ (50 ppm) STEL: 600 mg/m ³ (200 ppm)	TWA: 152 Peak limitation (50 Peak limitation) STEL: ()
64-17-5	Ethyl alcohol	TLV: 1000 ppm	TWA: 1900 mg/m ³ (1000 ppm) STEL: 3800 mg/m ³ (2000 ppm)	TWA: 1880 mg/m ³ (1000 ppm) STEL: ()

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CAS #	Hazardous components	Belgium OEL	California, USA	Ontario, CA
78-93-3	Methyl Ethyl Ketone	TWA: 600 mg/m ³ (200 ppm) STEL: 900 mg/m ³ (300 ppm)	TWA: 590 mg/m ³ (200 ppm) STEL: 885 mg/m ³ (300 ppm)	TWA: 200 ppm STEL: 300 ppm
67-63-0	Isopropyl alcohol	TWA: 500 mg/m ³ (200 ppm) STEL: 1000 mg/m ³ (400 ppm)	TWA: 980 mg/m ³ (400 ppm) STEL: 1225 mg/m ³ (500 ppm)	TWA: 200 ppm STEL: 400 ppm
71-36-3	n-Butyl alcohol	TWA: 62 mg/m ³ (20 ppm)	CEIL: 150 mg/m ³ (50 ppm)	TWA: 20 ppm
64-17-5	Ethyl alcohol	TWA: 1907 mg/m ³ (1000 ppm)	TWA: 1900 mg/m ³ (1000 ppm)	STEL: 1000 ppm

CAS #	Hazardous components	China	Québec, CA	German AGS
78-93-3	Methyl Ethyl Ketone	TWA: 300 mg/m ³ STEL: 600 mg/m ³ (15 min)	TWA: 150 mg/m ³ (50 ppm) STEL: 300 mg/m ³ (100 ppm)	TWA: 600 mg/m ³ (200 ppm) STEL: 600 mg/m ³ (200 ppm) (15 min)
67-63-0	Isopropyl alcohol	TWA: 350 mg/m ³ STEL: 700 mg/m ³ (15 min)	TWA: 983 mg/m ³ (400 ppm) STEL: 1230 mg/m ³ (500 ppm)	TWA: 500 mg/m ³ (200 ppm) STEL: 1000 mg/m ³ (400 ppm) (15 min)
71-36-3	n-Butyl alcohol	TWA: 100 mg/m ³	CEIL: 152 mg/m ³ (50 ppm)	TWA: 310 mg/m ³ (100 ppm) STEL: 310 mg/m ³ (100 ppm) (15 min)
64-17-5	Ethyl alcohol		TWA: 1880 mg/m ³ (1000 ppm)	TWA: 960 mg/m ³ (500 ppm) STEL: 1920 mg/m ³ (1000 ppm) (15 min)

CAS #	Hazardous components	Germany MAK/TRK	Denmark OEL	Spain OEL
78-93-3	Methyl Ethyl Ketone	TWA: 295 mg/m ³ (100 ppm) STEL: 600 mg/m ³ (200 ppm) (30min) (4x)	TWA: 145 mg/m ³ (50 ppm) STEL: 290 mg/m ³ (100 ppm)	TWA: 600 mg/m ³ (200 ppm) STEL: 900 mg/m ³ (300 ppm)
67-63-0	Isopropyl alcohol	TWA: 500 mg/m ³ (200 ppm)	TWA: 500 mg/m ³ (200 ppm) STEL: 980 mg/m ³ (400 ppm)	TWA: 500 mg/m ³ (200 ppm) STEL: 1000 mg/m ³ (400 ppm)

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		STEL: 2000 mg/m ³ (15/30min)(4x) (800 ppm (15/30min) (4x))		
71-36-3	n-Butyl alcohol	TWA: 150 mg/m ³ (50 ppm) STEL: 600 mg/m ³ (200 ppm) (15min) (4x)	TWA: 150 mg/m ³ (50 ppm) STEL: 150 mg/m ³ (50 ppm)	TWA: 61 mg/m ³ (20 ppm) STEL: 154 mg/m ³ (50 ppm)
64-17-5	Ethyl alcohol	TWA: 1900 mg/m ³ (1000 ppm) STEL: 3800 mg/m ³ (2000 ppm) (60min) (3x) TWA: 960 mg/m ³ (500 ppm)	TWA: 1900 mg/m ³ (1000 ppm) STEL: 3800 mg/m ³ (2000 ppm)	STEL: 1910 mg/m ³ (1000 ppm)

CAS #	Hazardous components	Europe	Finland OEL	France VL
78-93-3	Methyl Ethyl Ketone	TWA: 600 mg/m ³ (200 ppm) STEL: 900 mg/m ³ (300 ppm)	STEL: 300 mg/m ³ (100 ppm) (15 min)	TWA: 600 mg/m ³ (200 ppm) STEL: 900 mg/m ³ (300 ppm)
67-63-0	Isopropyl alcohol		TWA: 500 mg/m ³ (200 ppm) STEL: 620 mg/m ³ (250 ppm) (15 min)	STEL: 980 mg/m ³ (400 ppm)
71-36-3	n-Butyl alcohol		TWA: 150 mg/m ³ (50 ppm) STEL: 230 mg/m ³ (75 ppm) (15 min)	STEL: 150 mg/m ³ (50 ppm)
64-17-5	Ethyl alcohol		TWA: 1900 mg/m ³ (1000 ppm) STEL: 2500 mg/m ³ (1300 ppm)(15min)	TWA: 1900 mg/m ³ (1000 ppm) STEL: 9500 mg/m ³ (5000 ppm)

CAS #	Hazardous components	Hungary OEL	Ireland OEL	Italy OEL
78-93-3	Methyl Ethyl Ketone	TWA: 600 mg/m ³ STEL: 900 mg/m ³	TWA: 600 mg/m ³ (200 ppm) STEL: 900 mg/m ³ (300 ppm) (15 min)	TWA: 600 mg/m ³ (200 ppm) STEL: 900 mg/m ³ (300 ppm)
67-63-0	Isopropyl alcohol	TWA: 500 mg/m ³ STEL: 2000 mg/m ³	TWA: 200 ppm STEL: 400 ppm (15 min)	

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71-36-3	n-Butyl alcohol		
64-17-5	Ethyl alcohol	TWA: 1900 mg/m3 STEL: 7600 mg/m3	STEL: 1000 ppm (15 min)

CAS #	Hazardous components	South Korea	Latvia OEL	Mexico OEL
78-93-3	Methyl Ethyl Ketone	TWA: 590 mg/m3 (200 ppm) STEL: 885 mg/m3 (300 ppm)	TWA: 200 mg/m3 (67 ppm) STEL: 900 mg/m3 (300 ppm) (15 min)	TWA: 590 mg/m3 (200 ppm) STEL: 885 mg/m3 (300 ppm)
67-63-0	Isopropyl alcohol	TWA: 480 mg/m3 (200 ppm) STEL: 980 mg/m3 (400 ppm)	TWA: 350 mg/m3 STEL: 600 mg/m3 (15 min)	TWA: 980 mg/m3 (400 ppm) STEL: 1225 mg/m3 (500 ppm)
71-36-3	n-Butyl alcohol	TWA: 60 mg/m3 (20 ppm)		CEIL: 150 mg/m3 (50 ppm)
64-17-5	Ethyl alcohol	TWA: 1900 mg/m3 (1000 ppm)	TWA: 1000 mg/m3	TWA: 1900 mg/m3 (1000 ppm)

CAS #	Hazardous components	Malaysia OEL	NIOSH	Netherlands OEL
78-93-3	Methyl Ethyl Ketone	TWA: 590 mg/m3 (200 ppm)	TWA: 200 ppm STEL: 300 ppm	TWA: 590 mg/m3 STEL: 900 mg/m3
67-63-0	Isopropyl alcohol	TWA: 983 mg/m3 (400 ppm)	TWA: 980 mg/m3 (400 ppm) STEL: 1225 mg/m3 (500 ppm)	
71-36-3	n-Butyl alcohol	CEIL: 152 mg/m3 (50 ppm)	CEIL: 50 ppm	
64-17-5	Ethyl alcohol	TWA: 1880 mg/m3 (1000 ppm)	TWA: 1900 mg/m3 (1000 ppm)	TWA: 260 mg/m3 STEL: 1900 mg/m3

CAS #	Hazardous components	New Zealand	OSHA PELs	Poland
78-93-3	Methyl Ethyl Ketone	TWA: 445 mg/m3 (150 ppm) STEL: 890 mg/m3 (300 ppm)	PEL: 200 ppm	TWA: 450 mg/m3 STEL: 900 mg/m3
67-63-0	Isopropyl alcohol	TWA: 983 mg/m3 (400 ppm) STEL: 1230 mg/m3 (500 ppm)	PEL: 400 ppm	TWA: 900 mg/m3 STEL: 1200 mg/m3
71-36-3	n-Butyl alcohol	CEIL: 150 mg/m3 (50 ppm)	PEL: 100 ppm	TWA: 50 mg/m3 STEL: 150 mg/m3

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64-17-5	Ethyl alcohol	TWA: 1880 mg/m3 (1000 ppm)	PEL: 1000 ppm	TWA: 1900 mg/m3
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CAS #	Hazardous components	Sweden OEL	Singapore	Britain EH40
78-93-3	Methyl Ethyl Ketone	TWA: 150 mg/m3 (50 ppm) STEL: 300 mg/m3 (100 ppm) (15 min)	TWA: 590 mg/m3 (200 ppm) STEL: 885 mg/m3 (300 ppm)	TWA: 600 mg/m3 (200 ppm) STEL: 899 mg/m3 (300 ppm)
67-63-0	Isopropyl alcohol	TWA: 350 mg/m3 (150 ppm) STEL: 600 mg/m3 (250 ppm) (15 min)	TWA: 983 mg/m3 (400 ppm) STEL: 1230 mg/m3 (500 ppm)	TWA: 999 mg/m3 (400 ppm) STEL: 1250 mg/m3 (500 ppm)
71-36-3	n-Butyl alcohol	TWA: 45 mg/m3 (15 ppm) CEIL: 90 mg/m3 (30 ppm)	STEL: 150 mg/m3 (50 ppm)	STEL: 154 mg/m3 (50 ppm)
64-17-5	Ethyl alcohol	TWA: 1000 mg/m3 (500 ppm) STEL: 1900 mg/m3 (1000 ppm) (15 min)	TWA: 1880 mg/m3 (1000 ppm)	TWA: 1920 mg/m3 (1000 ppm) STEL: ()

CAS #	Hazardous components	Switzerland OEL	Japan OEL
78-93-3	Methyl Ethyl Ketone		
67-63-0	Isopropyl alcohol	TWA: 500 mg/m3 (200 ppm) STEL: 1000 mg/m3 (400 ppm)	
71-36-3	n-Butyl alcohol	TWA: 150 mg/m3 (50 ppm) STEL: 150 mg/m3 (50 ppm)	
64-17-5	Ethyl alcohol		

8.2 Exposure controls:

8.2.1 Appropriate engineering controls:

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. Use adequate general or local explosion-proof ventilation to keep airborne levels to acceptable levels.



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8.2.2 Individual protection measures, such as personal protective equipment

- Eye/Face 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.
- Skin protection:** Wear appropriate protective gloves and clothing to prevent skin exposure.
- Respiratory protection:** 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. Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.
- Hygienic Practices:** DO NOT SMOKE IN WORK AREA! Promptly remove contaminated clothing. Wash immediately if skin becomes contaminated. Do not eat or drink in work area while using this product. Wash thoroughly at the end of the workday, before eating and using the restroom.

Section 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance:	Tinted liquid		
Odor:	Solvent	Odor threshold:	No data available
pH:	No data available	Melting point:	-114.10 C - -87.00 C
Boiling range:	78.0 C - 117.60 C	Flash point:	>-7.0 C
Evaporation rate:	No data available	Upper Explosive Limit:	No data available
		Lower Explosive Limit:	No data available
Flammability:	No data available	Vapor Pressure:	No data available
Vapor density:	> Air	Relative Density:	0.798 (H2O = 1 @ 20 °C)
Solubility(ies):	Miscible	Partition coefficient n-octanol/water:	No data available
Auto-ignition temperature:	>340.00 C	Decomposition temperature:	No data available
Viscosity:	No data available		No data available
Explosive properties:	> 80.0% Volatile by volume.		
Oxidizing properties:	No data available		

9.2 Other information:

Miscibility:	No data available	VOC:	No data available
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Section 10: Stability and reactivity

10.1 Reactivity

No data available.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Will not occur.

10.4 Conditions to avoid:

Incompatible materials, ignition sources, Excess heat, Light, High temperatures.

10.5 Incompatible materials:

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. 2-propanol, Aluminum, organic peroxides, chromium trioxide, Reducing agents, Copper, Copper alloys.

10.6 Hazardous decomposition products

Carbon monoxide, irritating and toxic fumes and gases, Carbon dioxide.

Section 11: Toxicological information

11.1 Information on Toxicological effects

Acute toxicity:

CAS# 78-93-3:

Acute toxicity, LD50, Intraperitoneal, Mouse, 616.0 MG/KG.

Result:

Lungs, Thorax, or Respiration: Sputum.

Biochemical: Metabolism (Intermediary): Other proteins.

Biochemical: Metabolism (intermediary): Effect on inflammation or mediation of inflammation.

- Shell Chemical Company. Unpublished Report., Vol/p/yr: -,6, 1961

Acute toxicity, LD50, Skin, Species: Rabbit, 6480. MG/KG.

Result:

Lungs, Thorax, or Respiration: Other changes.

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Biochemical: Metabolism (intermediary): Effect on inflammation or mediation of inflammation.

- Shell Chemical Company., Vol/p/yr: MSDS-5390-,

Acute toxicity, LC50, Inhalation, Mouse, 32.00 MG/M3.

Result:

Brain and Coverings: Other degenerative changes.

Biochemical: Metabolism (intermediary): Effect on inflammation or mediation of inflammation.

Acute toxicity, LD50, Intraperitoneal, Species: Guinea pig, 2.000 GM/KG.

Result:

Immunological Including Allergic: Increase in humoral immune response.

No data available

Skin

corrosion/irritation:

Serious eye No data available

damage/irritation:

Respiratory or skin No data available

sensitization:

Germ cell No data available

mutagenicity:

Carcinogenicity:

CAS# 78-93-3: 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# 71-36-3: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

CAS# 64-17-5: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

IARC: Group 3: Not classifiable as to its carcinogenicity to humans 3.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: No data available

STOT-single exposure: No data available

STOT-repeated No data available

exposure:

Aspiration hazard No data available

11.1.1 Hazard Class information:

No data available

11.1.2 Mixture toxicity:



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No data available
11.1.3 Critical studies:

No data available
11.1.4 Non-compliance hazard class:

No data available
11.1.5 Information on likely routes of exposure:

No data available
11.1.6 Symptoms related to the physical, chemical and toxicological characteristics:

No data available
11.1.7 Delayed and immediate effects as well as chronic effects from short and long-term exposure:

No data available
11.1.8 Interactive effects:

No data available
11.1.9 Absence of specific data:

No data available
11.1.10 Mixtures:

No data available
11.1.11 Mixture vs Substance information:

No data available
11.1.12 Other information:

No data available

Section 12: Ecological information

12.1 Toxicity:

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.

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.

Physical: THOD: 2.40 g oxygen/gCOD: 2.23 g oxygen/gBOD-5: 1.19-1.72 g oxygen/g.



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Environmental: Substance evaporates in water with T1/2= 3D (rivers) to 12D (lakes). Substance is not expected to bioconcentrate in marine life. Physical: Substance photodegrades in air with T1/2 = 2.3 days. Oxidizes rapidly by photo-chemical reactions in air. Readily biodegradable meeting the 10 day window criterion. Not expected to bioaccumulate significantly.

12.2 Persistence and degradability:

No data available

12.3 Bioaccumulative potential:

No data available

12.4 Mobility in soil:

No data available

12.5 Results of PBT and vPvB assessment:

No data available

12.6 Other adverse effects:

No data available

Section 13: Disposal considerations

13.1 Waste treatment methods:

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# 78-93-3: waste number U159 (Ignitable waste, Toxic waste).

CAS# 71-36-3: waste number U031 (Ignitable waste).

Section 14: Transport information

14.1	UN number:	1210
14.2	Proper shipping name:	
	US DOT:	Printing Ink
	Canadian TDG:	Printing ink, [flammable or] Printing ink related material [(including printing ink thinning or reducing compound), flammable]
	European ADR/RID:	Printing ink, [flammable or] Printing ink related material [(including printing ink thinning or reducing compound), flammable]

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	IMDG/IMO:	Printing ink, [flammable or] Printing ink related material [(including printing ink thinning or reducing compound), flammable]
	ICAO/IATA:	Printing ink, [flammable or] Printing ink related material [(including printing ink thinning or reducing compound), flammable]
14.3	Transport hazard class(es) :	3 - FLAMMABLE LIQUID
14.4	Packing group:	II
14.5	Environmental hazards:	N/A
14.6	Special precautions for user:	N/A
14.7	Transport in bulk according to Annex II of Marpol and the IBC Code:	N/A

Section 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:

EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists				
CAS #	Hazardous components	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
78-93-3	Methyl Ethyl Ketone	No	Yes 5000LB	No
67-63-0	Isopropyl alcohol	No	No	Yes
71-36-3	n-Butyl alcohol	No	Yes 5000LB	Yes
64-17-5	Ethyl alcohol	No	No	No

CAS #	Hazardous components	Canadian NPRI	Canadian Toxic	Canadian DSL
78-93-3	Methyl Ethyl Ketone	Yes	No	Yes
67-63-0	Isopropyl alcohol	Yes	No	Yes
71-36-3	n-Butyl alcohol	Yes	No	Yes
64-17-5	Ethyl alcohol	Yes	No	Yes

CAS #	Hazardous components	CAA HAP, ODC	CWA NPDES	TSCA
78-93-3	Methyl Ethyl Ketone	No	No	Yes - Inv
67-63-0	Isopropyl alcohol	No	No	Yes - Inv
71-36-3	n-Butyl alcohol	No	No	Yes - Inv
64-17-5	Ethyl alcohol	No	No	Yes - Inv

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CAS #	Hazardous components	CA Prop 65	Mexico INSQ	Australia ICS
78-93-3	Methyl Ethyl Ketone	No	Yes - 1193	Listed
67-63-0	Isopropyl alcohol	No	Yes - 1219	Listed
71-36-3	n-Butyl alcohol	No	Listed	Listed
64-17-5	Ethyl alcohol	No	Listed	Listed

CAS #	Hazardous components	New Zealand IOC	China IECSC	Japan ENCS
78-93-3	Methyl Ethyl Ketone	Listed	Listed	Yes - 2-542
67-63-0	Isopropyl alcohol	Listed	Listed	Yes - 2-207
71-36-3	n-Butyl alcohol	Listed	Listed	Yes - 7-321
64-17-5	Ethyl alcohol	Listed	Listed	Yes - 5-153

CAS #	Hazardous components	Japan ISHL	Korea ECL	Philippines
78-93-3	Methyl Ethyl Ketone	No	Yes KE-24094	Listed
67-63-0	Isopropyl alcohol	Yes -2(-8)-319	Yes KE-29363	Listed
71-36-3	n-Butyl alcohol	Yes -2(-8)-299	Yes KE-03867	Listed
64-17-5	Ethyl alcohol	No	Yes KE-13217	Listed

CAS #	Hazardous components	Taiwan TCSCA	Singapore HSL	Israel HSL:
78-93-3	Methyl Ethyl Ketone	Listed	No	No
67-63-0	Isopropyl alcohol	Listed	No	Yes-Cat
71-36-3	n-Butyl alcohol	Listed	No	Yes-Cat
64-17-5	Ethyl alcohol	Listed	No	Yes-Cat

CAS #	Hazardous components	Germany WHCS	Switzerland Giftliste 1	Switzerland INNS
78-93-3	Methyl Ethyl Ketone	Yes - 150	Yes G-2429	No
67-63-0	Isopropyl alcohol	Yes - 135	Yes G-1712	No
71-36-3	n-Butyl alcohol	Yes - 39	Yes G-1321	No
64-17-5	Ethyl alcohol	Yes - 96	Yes G-1158	No

CAS #	Hazardous components	REACH	Kyoto GHG	Rotterdam
78-93-3	Methyl Ethyl Ketone	Yes - (R), (P)	No	No
67-63-0	Isopropyl alcohol	Yes - (R), (P)	No	No
71-36-3	n-Butyl alcohol	Yes - (R), (P)	No	No
64-17-5	Ethyl alcohol	Yes - (R), (P)	No	No

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CAS #	Hazardous components	Stockholm
78-93-3	Methyl Ethyl Ketone	No
67-63-0	Isopropyl alcohol	No
71-36-3	n-Butyl alcohol	No
64-17-5	Ethyl alcohol	No

Canadian WHMIS Classification:



CLASS B, DIVISION 2: Flammable Liquids

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

15.2 Chemical safety assessment

Section 16: Other information

Revision Date: 12/10/2020

Revision Notes: Revision B: Format updated to (EU) 2015/830.

Additional Information:

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