Safety Data Sheet

Date: 3/18/2021
Product Number: 51-0035-01 Revision: B
Product Name: Ink, MEK MilSpec

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, MEK MilSpec
Product Code: 51-0035-01

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
Serious Eye Damage/Eye Irritation, Category 2
Skin Sensitization, Category 1
Specific Target Organ Toxicity (single exposure), Category 3

2.2 Label elements

Signal word: Danger

Hazard statements:

H225 - Highly flammable liquid and vapor.
H319 - Causes serious eye irritation.
H317 - May cause an allergic skin reaction.
H361 - Suspected of damaging fertility or the unborn child .
H336 - May cause drowsiness or dizziness.

Precautionary statements:

P233 - Keep container tightly closed.
P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P240 - Ground/bond container and receiving equipment.
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/vapors/spray.
P272 - Contaminated work clothing should not be allowed out of the workplace.
P362+364 - Take off contaminated clothing and wash it before reuse.
P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P281 - Use personal protective equipment as required.
P271 - Use only outdoors or in a well-ventilated area.
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.
P302+352 - IF ON SKIN: Wash with plenty of soap and water.
P333+313 - If skin irritation or rash occurs, seek medical advice/attention.
P321 - Specific treatment see ... on this label.
P308+313 - IF exposed or concerned: Get medical attention/advice.
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.
P403+235 - Store in cool/well-ventilated place.
P501 - Dispose of contents/container to ...
P405 - Store locked up.
P403+233 - Store container tightly closed in well-ventilated place.

2.3 Adverse Human Health Effects and Symptoms:

Chronic: Chronic inhalation may cause effects similar to those of acute inhalation.
Prolonged or repeated skin contact may cause defatting and dermatitis. Animal studies have reported that fetal effects/abnormalities may occur when maternal toxicity is seen. Chronic overexposure to vapors may cause lung damage. Repeated or prolonged exposure may cause CNS stimulation.

Inhalation: Causes 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. Inhalation of high concentrations may cause central nervous system effects characterized by nausea, headache, dizziness, unconsciousness and coma. May be harmful if inhaled. Vapors may cause dizziness or suffocation. Material may be irritating to mucous membranes and upper respiratory tract..

Skin Contact: 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. May cause skin irritation. May be harmful if absorbed through the skin. Prolonged and/or frequent contact may cause drying, cracking or folliculitis. Skin Absorption: May be harmful if absorbed through the skin. May cause allergic skin reaction.

Eye Contact: Causes eye irritation. Vapors may cause eye irritation. Animal evidence suggests that MEK is a moderate to severe eye irritant. May cause eye irritation. Causes severe eye irritation.

Ingestion: 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. May cause gastrointestinal irritation with nausea, vomiting and diarrhea. 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. May be harmful if swallowed.

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	30.0 – 70.0%	Flam. Liq. 2: H225; Eye Irrit. 2: H319; STOT SE 3: H336;
64-17-5	200-578-6 603-002-00-5	Ethyl alcohol	5.0 -10.0 %	Flam. Liq. 2: H225

107-98-2	203-539-1 603-064-00-3	2-Propanol, 1-Methoxy-	5.0 -10.0 %	Flam. Liq. 3: H226 STOT (SE) 3: H335 H336
25085-75-0	607-535-4	Formaldehyde, polymer with 4,4'-(1-methylethylidene)bis[phenol]	11.24 -13.14 %	
80-05-7	201-245-8 604-030-00-0	4,4'-Isopropylidenediphenol	1.46 -2.62 %	Skin Sens. 1: H317 Eye Damage 1: H318 STOT (SE) 3: H335 H336 Toxic Repro. 2: H361f
67-63-0	200-661-7 603-117-00-0	Isopropyl alcohol	0.1 -1.0 %	Flam. Liq. 3 STOT (SE) 3
108-83-8	203-620-1 606-005-00-X	Diisobutyl ketone	0.1 -1.0 %	Flam. Liq. 3: H226 STOT (SE) 3: H335 H336

Section 4: First Aid Measures

4.1 Description of first aid measures

Inhalation If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid. Remove victim to fresh air. If not breathing give artificial respiration. Get medical aid immediately. Remove from exposure and move to fresh air immediately. If breathing becomes difficult, call a physician.

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

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

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

4.2 Most Important symptoms and effects, both acute and delayed

Gastrointestinal disturbances. May cause convulsions.
CONDITIONS AGGRAVATED BY EXPOSURE:
The toxicological properties have not been thoroughly investigated. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to doctor: Treat symptomatically and supportively.

Section 5: Fire Fighting Measures

5.1 Extinguishing media

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. Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam. For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam. For large fires, use water spray, fog, or alcohol-resistant foam. Water may be ineffective. Do NOT use straight streams of water. Cool containers with flooding quantities of water until well after fire is out.

5.2 Special hazards arising from the substance or mixture

Dust Potential: Dust and fumes may be a fire and explosion hazard when exposed to high temperatures or ignition sources. Particle size and dispersion in air determine reactivity.

5.3 Advice for firefighters

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. 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. 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. Use water spray to keep fire-exposed containers cool. Containers may explode in the heat of a fire. Flammable liquid and vapor. Vapors may be heavier than air.

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. Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves.

6.2 Environmental Precautions

No data available.

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.

6.3.2 Clean up and disposal of spill:

Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete. Avoid runoff into storm sewers and ditches which lead to waterways. A vapor suppressing foam may be used to reduce vapors.

Section 7: Handling and storage

7.1 Precautions for safe handling

Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. 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. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Use only with adequate ventilation. Avoid breathing vapor. User Exposure: Avoid prolonged or repeated exposure. Do not breathe dust. Use only in a well-ventilated area. Avoid breathing dust.

7.2 Conditions for safe storage, including any compatibilities

Keep away from sources of ignition. Store in a cool, dry, well-ventilated area away from incompatible substances. Flammables-area. Keep container closed. Keep away from heat and open flame.
Store at 35-90deg.F. Keep containers tightly closed.

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/m3 (100 ppm) STEL: 590 mg/m3 (200 ppm)	TWA: 445 mg/m3 (150 ppm) STEL: 890 mg/m3 (300 ppm)
64-17-5	Ethyl alcohol	TLV: 1000 ppm	TWA: 1900 mg/m3 (1000 ppm) STEL: 3800 mg/m3 (2000 ppm)	TWA: 1880 mg/m3 (1000 ppm) STEL: ()
107-98-2	2-Propanol, 1-Methoxy-	TLV: 100 ppm STEL: 150 ppm	TWA: 187 mg/m3 (50 ppm) STEL: 187 mg/m3 (50 ppm)	TWA: 369 mg/m3 (100 ppm) STEL: 553 mg/m3 (150 ppm)
80-05-7	4,4'-Isopropylidenediphenol		TWA: 5 mg/m3 STEL: 5 mg/m3 (Inhalable aerosol)	
67-63-0	Isopropyl alcohol	TLV: 200 ppm STEL: 400 ppm	TWA: 500 mg/m3 (200 ppm) STEL: 2000 mg/m3 (800 ppm)	TWA: 983 mg/m3 (400 ppm) STEL: 1230 mg/m3 (500 ppm)
108-83-8	Diisobutyl ketone	TLV: 25 ppm	TWA: 290 mg/m3 (50 ppm)	TWA: 145 mg/m3 (25 ppm) STEL: ()

CAS #	Hazardous components	Belgium OEL	California, USA	Ontario, CA
78-93-3	Methyl Ethyl Ketone	TWA: 600 mg/m3 (200 ppm) STEL: 900 mg/m3 (300 ppm)	TWA: 590 mg/m3 (200 ppm) STEL: 885 mg/m3 (300 ppm)	TWA: 200 ppm STEL: 300 ppm
64-17-5	Ethyl alcohol	TWA: 1907 mg/m3 (1000 ppm)	TWA: 1900 mg/m3 (1000 ppm)	STEL: 1000 ppm
107-98-2	2-Propanol, 1-Methoxy-	TWA: 375 mg/m3 (100 ppm) STEL: 568 mg/m3 (150 ppm)	TWA: 360 mg/m3 (100 ppm) STEL: 811 mg/m3 (150 ppm)	TWA: 100 ppm STEL: 150 ppm
80-05-7	4,4'-Isopropylidenediphenol	TWA: 10 mg/m3		
67-63-0	Isopropyl alcohol	TWA: 500 mg/m3 (200 ppm) STEL: 1000 mg/m3 (400 ppm)	TWA: 980 mg/m3 (400 ppm) STEL: 1225 mg/m3 (500 ppm)	TWA: 200 ppm STEL: 400 ppm
108-83-8	Diisobutyl ketone	TWA: 147 mg/m3 (25 ppm)	TWA: 150 mg/m3 (25 ppm)	TWA: 25 ppm

CAS #	Hazardous components	China	Québec, CA	German AGS
78-93-3	Methyl Ethyl Ketone	TWA: 300 mg/m3 STEL: 600 mg/m3 (15 min)	TWA: 150 mg/m3 (50 ppm) STEL: 300 mg/m3 (100 ppm)	TWA: 600 mg/m3 (200 ppm) STEL: 600 mg/m3 (200 ppm) (15 min)
64-17-5	Ethyl alcohol		TWA: 1880 mg/m3 (1000 ppm)	TWA: 960 mg/m3 (500 ppm) STEL: 1920 mg/m3 (1000 ppm) (15 min)
107-98-2	2-Propanol, 1-Methoxy-		TWA: 369 mg/m3 (100 ppm) STEL: 553 mg/m3 (150 ppm)	TWA: 370 mg/m3 (100 ppm) STEL: 740 mg/m3 (200 ppm) (15 min)
80-05-7	4,4'-Isopropylidenediphenol			TWA: 5 mg/m3 STEL: 5 mg/m3 (15 min) (Inhalable aerosol)
67-63-0	Isopropyl alcohol	TWA: 350 mg/m3 STEL: 700 mg/m3 (15 min)	TWA: 983 mg/m3 (400 ppm) STEL: 1230 mg/m3 (500 ppm)	TWA: 500 mg/m3 (200 ppm) STEL: 1000 mg/m3 (400 ppm) (15 min)
108-83-8	Diisobutyl ketone	TWA: 145 mg/m3	TWA: 145 mg/m3 (25 ppm)	

CAS #	Hazardous components	Germany MAK/TRK	Denmark OEL	Spain OEL
78-93-3	Methyl Ethyl Ketone	TWA: 295 mg/m3 (100 ppm) STEL: 600 mg/m3 (200 ppm) (30min) (4x)	TWA: 145 mg/m3 (50 ppm) STEL: 290 mg/m3 (100 ppm)	TWA: 600 mg/m3 (200 ppm) STEL: 900 mg/m3 (300 ppm)
64-17-5	Ethyl alcohol	TWA: 1900 mg/m3 (1000 ppm) STEL: 3800 mg/m3 (2000 ppm) (60min) (3x) TWA: 960 mg/m3 (500 ppm)	TWA: 1900 mg/m3 (1000 ppm) STEL: 3800 mg/m3 (2000 ppm)	STEL: 1910 mg/m3 (1000 ppm)
107-98-2	2-Propanol, 1-Methoxy-	TWA: 187 mg/m3 (50 ppm) STEL: 187 mg/m3 (50 ppm)	TWA: 185 mg/m3 (50 ppm) STEL: 370 mg/m3 (100 ppm)	TWA: 375 mg/m3 (100 ppm) STEL: 568 mg/m3 (150 ppm)
80-05-7	4,4'-Isopropylidenediphenol	TWA: 5 mg/m3 E STEL: 5 mg/m3 E		TWA: 10 mg/m3
67-63-0	Isopropyl alcohol	TWA: 500 mg/m3 (200 ppm) STEL: 2000 mg/m3 (15/30min)(4x) (800 ppm (15/30min) (4x))	TWA: 500 mg/m3 (200 ppm) STEL: 980 mg/m3 (400 ppm)	TWA: 500 mg/m3 (200 ppm) STEL: 1000 mg/m3 (400 ppm)
108-83-8	Diisobutyl ketone	TWA: 290 mg/m3 (50 ppm)	TWA: 150 mg/m3 (25 ppm) STEL: 300 mg/m3 (50 ppm)	TWA: 148 mg/m3 (25 ppm)

CAS #	Hazardous components	Europe	Finland OEL	France VL
78-93-3	Methyl Ethyl Ketone	TWA: 600 mg/m3 (200 ppm) STEL: 900 mg/m3 (300 ppm)	STEL: 300 mg/m3 (100 ppm) (15 min)	TWA: 600 mg/m3 (200 ppm) STEL: 900 mg/m3 (300 ppm)
64-17-5	Ethyl alcohol		TWA: 1900 mg/m3 (1000 ppm) STEL: 2500 mg/m3 (1300 ppm)(15min)	TWA: 1900 mg/m3 (1000 ppm) STEL: 9500 mg/m3 (5000 ppm)

107-98-2	2-Propanol, 1-Methoxy-	TWA: 375 mg/m3 (100 ppm) STEL: 568 mg/m3 (150 ppm)	TWA: 370 mg/m3 (100 ppm) STEL: 560 mg/m3 (150 ppm) (15 min)	TWA: 188 mg/m3 (50 ppm) STEL: 375 mg/m3 (100 ppm)
80-05-7	4,4'-Isopropylidenediphenol		TWA: 5 mg/m3	
67-63-0	Isopropyl alcohol		TWA: 500 mg/m3 (200 ppm) STEL: 620 mg/m3 (250 ppm) (15 min)	STEL: 980 mg/m3 (400 ppm)
108-83-8	Diisobutyl ketone		TWA: 150 mg/m3 (25 ppm) STEL: 240 mg/m3 (40 ppm) (15 min)	TWA: 250 mg/m3 (25 ppm)

CAS #	Hazardous components	Hungary OEL	Ireland OEL	Italy OEL
78-93-3	Methyl Ethyl Ketone	TWA: 600 mg/m3 STEL: 900 mg/m3	TWA: 600 mg/m3 (200 ppm) STEL: 900 mg/m3 (300 ppm) (15 min)	TWA: 600 mg/m3 (200 ppm) STEL: 900 mg/m3 (300 ppm)
64-17-5	Ethyl alcohol	TWA: 1900 mg/m3 STEL: 7600 mg/m3	STEL: 1000 ppm (15 min)	
107-98-2	2-Propanol, 1-Methoxy-	TWA: 375 mg/m3 STEL: 568 mg/m3	TWA: 375 mg/m3 (100 ppm) STEL: 568 mg/m3 (150 ppm) (15 min)	TWA: 375 mg/m3 (100 ppm) STEL: 568 mg/m3 (150 ppm)
80-05-7	4,4'-Isopropylidenediphenol		TWA: 10 mg/m3	TWA: 10 mg/m3
67-63-0	Isopropyl alcohol	TWA: 500 mg/m3 STEL: 2000 mg/m3	TWA: 200 ppm STEL: 400 ppm (15 min)	
108-83-8	Diisobutyl ketone		TWA: 150 mg/m3 (25 ppm)	

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)
64-17-5	Ethyl alcohol	TWA: 1900 mg/m3 (1000 ppm)	TWA: 1000 mg/m3	TWA: 1900 mg/m3 (1000 ppm)
107-98-2	2-Propanol, 1-Methoxy-	TWA: 360 mg/m3 (100 ppm)	TWA: 375 mg/m3 (100 ppm)	

		STEL: 540 mg/m3 (150 ppm)	STEL: 568 mg/m3 (150 ppm) (15 min)	
80-05-7	4,4'-Isopropylidenediphenol		TWA: 5 mg/m3	
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)
108-83-8	Diisobutyl ketone	TWA: 150 mg/m3 (25 ppm)		TWA: 145 mg/m3 (25 ppm) STEL: ()

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
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
107-98-2	2-Propanol, 1-Methoxy-	TWA: 369 mg/m3 (100 ppm)	TWA: 360 mg/m3 (100 ppm) STEL: 540 mg/m3 (150 ppm) (15 min)	TWA: 375 mg/m3 STEL: 563 mg/m3
80-05-7	4,4'-Isopropylidenediphenol			TWA: 10 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)	
108-83-8	Diisobutyl ketone	TWA: 145 mg/m3 (25 ppm)	TWA: 150 mg/m3 (25 ppm)	

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
64-17-5	Ethyl alcohol	TWA: 1880 mg/m3 (1000 ppm)	PEL: 1000 ppm	TWA: 1900 mg/m3
107-98-2	2-Propanol, 1-Methoxy-	TWA: 369 mg/m3 (100 ppm) STEL: 553 mg/m3 (150 ppm)		
80-05-7	4,4'-Isopropylidenediphenol			TWA: 5 mg/m3 STEL: 10 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
108-83-8	Diisobutyl ketone	TWA: 145 mg/m3 (25 ppm)	PEL: 50 ppm	TWA: 150 mg/m3 STEL: 300 mg/m3

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)
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: ()
107-98-2	2-Propanol, 1-Methoxy-	TWA: 190 mg/m3 (50 ppm) STEL: 300 mg/m3 (75 ppm) (15 min)		TWA: 375 mg/m3 (100 ppm) STEL: 560 mg/m3 (150 ppm)
80-05-7	4,4'-Isopropylidenediphenol		TWA: 145 mg/m3 (25 ppm)	TWA: 148 mg/m3 (25 ppm) STEL: ()
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)
108-83-8	Diisobutyl ketone			

CAS #	**Hazardous components**	**Switzerland OEL**	**Japan OEL**	
78-93-3	Methyl Ethyl Ketone			
64-17-5	Ethyl alcohol			
107-98-2	2-Propanol, 1-Methoxy-	TWA: 360 mg/m3 (100 ppm) STEL: 720 mg/m3 (200 ppm)		
80-05-7	4,4'-Isopropylidenediphenol	TWA: 5 mg/m3 STEL: 5 mg/m3 (Inhalable aerosol)		
67-63-0	Isopropyl alcohol	TWA: 500 mg/m3 (200 ppm) STEL: 1000 mg/m3 (400 ppm)		
108-83-8	Diisobutyl ketone	TWA: 150 mg/m3 (25 ppm)		

8.2 Exposure controls:

8.2.1 Appropriate engineering controls:

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. Mechanical exhaust required.

8.2.2 Individual protection measures, such as personal protective equipment

Eye/Face protection:	Wear chemical splash goggles.
Skin protection:	Wear appropriate protective gloves to prevent skin exposure. Wear appropriate protective clothing to prevent skin exposure. Wear appropriate protective clothing to minimize contact with skin.
Respiratory protection:	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 respirators if exposure limits are exceeded or if irritation or other symptoms are experienced. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). (EU). Use supplied-air or SCBA respirators. Europe permits the use of type AXBEK full-face cartridge respirators (EN 14387). Wear appropriate government approved respirator, chemical-resistant gloves, safety goggles, other protective clothing. Wear a NIOSH/MSHA or European Standard EN 149 approved full-facepiece airline respirator in the positive pressure mode with emergency escape provisions. Where risk assessment shows air-purifying respirators are appropriate use a dust mask type N95 (US) or type P1 (EN 143) respirator.
Hygienic Practices:	Wash thoroughly after handling. EXPOSURE LIMITS. Country Source Type Value. Poland NDS 100 MG/M3 Poland NDSCh 300 MG/M3 Poland NDSP - Wash contaminated clothing before reuse.

Section 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance:	Dark liquid		
Odor:	Solvent	**Odor threshold:**	No data available
pH:	No data available	**Melting point:**	-97.00 C - 153.00 C
Boiling range:	80.00 C - 220.00 C	**Flash point:**	>-7.0 C
Evaporation rate:	3.8 (BuAC=1)	**Upper Explosive Limit:**	No data available
		Lower Explosive Limit:	No data available
Flammability:	No data available	**Vapor Pressure:**	84 MM_HG at 20.0 C
Vapor density:	> Air	**Relative Density:**	0.895 (H2O = 1 @ 20 °C)
Solubility(ies):	Miscible	**Partition coefficient n-octanol/water:**	No data available
Auto-ignition temperature:	286.00 C	**Decomposition temperature:**	No data available
Viscosity:	No data available		No data available
Explosive properties:	73.59% Volatile by volume.		
Oxidizing properties:	No data available		

9.2 Other information:

Miscibility:	No data available	**VOC:**	No data available

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:

Ignition sources, Excess heat, Incompatible materials.

10.5 Incompatible materials:

Strong oxidizing agents, Strong acids, 2-propanol, acids, Acid chlorides, Acid anhydrides, Alkali metals, Oxidizing agents, Reducing agents, isocyanates, Perchloric acid, Sulfuric acid, Strong bases.

10.6 Hazardous decomposition products

Carbon monoxide, Carbon dioxide, Phosphorous oxides.

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.
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.
CAS# 107-98-2:
Acute toxicity, LD50, Intravenous, Mouse, 5300. MG/KG.
Result:
Behavioral: Convulsions or effect on seizure threshold.
Behavioral: Ataxia.
Lungs, Thorax, or Respiration:Dyspnea.
- Arzneimittel-Forschung. Drug Research. (Editio Cantor Verlag,, Vol/p/yr: 22,569, 1972

Acute toxicity, LD50, Oral, Dog, 5.000 GM/KG.
Result:
Tumorigenic: Carcinogenic by RTECS criteria.
Tumorigenic:Facilitates action of known carcinogens.
Lungs, Thorax, or Respiration: Tumors.
- Arzneimittel-Forschung. Drug Research. (Editio Cantor Verlag,, Vol/p/yr: 22,569, 1972

Acute toxicity, LD50, Intravenous, Dog, 2.000 GM/KG.
Result:
Behavioral: Convulsions or effect on seizure threshold.
Behavioral: Ataxia.
Lungs, Thorax, or Respiration:Dyspnea.
- Arzneimittel-Forschung. Drug Research. (Editio Cantor Verlag,, Vol/p/yr: 22,569, 1972

Acute toxicity, LD50, Oral, Species: Rabbit, 5700. MG/KG.
Result:
Behavioral: Tremor.
Behavioral: Convulsions or effect on seizure threshold.
Blood:Other changes.
- Arzneimittel-Forschung. Drug Research. (Editio Cantor Verlag,, Vol/p/yr: 22,569, 1972

Acute toxicity, LD50, Skin, Species: Rabbit, 13.00 GM/KG.
Result:
Behavioral: Tremor.
Behavioral: Convulsions or effect on seizure threshold.
- Raw Material Data Handbook, Vol.1: Organic Solvents, 1974., National Assoc. of
Printing Ink Research Institute, Francis McDonald Sinclair Memorial Labor, Lehigh Univ.,
Bethlehem, PA 18015, Vol/p/yr: 1,105, 1974

Acute toxicity, LD50, Subcutaneous, Species: Rabbit, 5.000 GM/KG.
Result:
Behavioral: Alteration of classical conditioning.
- Arzneimittel-Forschung. Drug Research. (Editio Cantor Verlag,, Vol/p/yr: 22,569, 1972

Acute toxicity, LD50, Intravenous, Species: Rabbit, 1200. MG/KG.
Result:
Behavioral: Change in motor activity (specific assay).
- Arzneimittel-Forschung. Drug Research. (Editio Cantor Verlag,, Vol/p/yr: 22,569, 1972

Skin corrosion/irritation:	May cause skin irritation. Harmful if absorbed through the skin.
Serious eye damage/irritation:	Causes eye irritation.
Respiratory or skin sensitization:	Material may be irritating to mucous membranes and upper respiratory tract. Harmful if inhaled.
Germ cell mutagenicity:	No data available
Carcinogenicity:	CAS# 78-93-3: Not listed by ACGIH, IARC, NTP, or CA Prop 65. CAS# 107-98-2: Not listed by ACGIH, IARC, NTP, or CA Prop 65.
Reproductive toxicity:	No data available
STOT-single exposure:	No data available
STOT-repeated exposure:	No data available
Aspiration hazard	May be harmful if swallowed.

11.1.1 Hazard Class information:

No data available

11.1.2 Mixture toxicity:

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:

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.
If released on soil propylene glycol methyl ether would be expected to leach because it has a very low estimated soil adsorptivity. Based on limited data from screening tests, it would probably biodegrade. If released in water, the fate of propylene glycol methyl ether is not clear. Based on limited data from screening tests, it should be readily biodegradable. Propylene glycol methyl ether would not be expected to volatilize from water, adsorb to sediment, bioconcentrate in fish, photolyze or hydrolyze.
Physical: Propylene glycol methyl ether will react with photochemically-produced hydroxyl radicals in the atmosphere. Using an estimated rate constant of 1.57 cu cm/molec-sec for this reaction, the half-life of propylene glycol methyl ether in the atmosphere is predicted to be 24.5 hr. The experimentally-determined half-life of propylene glycol methyl ether under photochemical smog conditions was 3.1 hr.
Propylene glycol methyl ether is soluble in water and would be subject to wash out by rain.
Other: The Koc for propylene glycol methyl ether, estimated from molecular structure is 0.21.

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 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:

CAS# 78-93-3: waste number U159 (Ignitable waste, Toxic waste). APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION.
Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations. RCRA U-Series: None listed. Contact a licensed professional waste disposal service to dispose of this material.

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]
	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
64-17-5	Ethyl alcohol	No	No	No
107-98-2	2-Propanol, 1-Methoxy-	No	No	No
25085-75-0	Formaldehyde, polymer with 4,4'-(1-methylethylidene)bis[phenol]	No	No	No
80-05-7	4,4'-Isopropylidenediphenol	No	No	Yes
67-63-0	Isopropyl alcohol	No	No	Yes
108-83-8	Diisobutyl ketone	No	No	No

CAS #	**Hazardous components**	**Canadian NPRI**	**Canadian Toxic**	**Canadian DSL**
78-93-3	Methyl Ethyl Ketone	Yes	No	Yes
64-17-5	Ethyl alcohol	Yes	No	Yes
107-98-2	2-Propanol, 1-Methoxy-	No	No	Yes
25085-75-0	Formaldehyde, polymer with 4,4'-(1-methylethylidene)bis[phenol]	No	No	Yes
80-05-7	4,4'-Isopropylidenediphenol	Yes	Yes - 96	Yes
67-63-0	Isopropyl alcohol	Yes	No	Yes
108-83-8	Diisobutyl ketone	No	No	Yes

CAS #	**Hazardous components**	**CAA HAP, ODC**	**CWA NPDES**	**TSCA**
78-93-3	Methyl Ethyl Ketone	No	No	Yes- Inv
64-17-5	Ethyl alcohol	No	No	Yes- Inv
107-98-2	2-Propanol, 1-Methoxy-	No	No	Yes- Inv
25085-75-0	Formaldehyde, polymer with 4,4'-(1-methylethylidene)bis[phenol]	No	No	Yes- Inv
80-05-7	4,4'-Isopropylidenediphenol	No	No	Yes- Inv
67-63-0	Isopropyl alcohol	No	No	Yes- Inv
108-83-8	Diisobutyl ketone	No	No	Yes- Inv

CAS #	**Hazardous components**	**CA Prop 65**	**Mexico INSQ**	**Australia ICS**
78-93-3	Methyl Ethyl Ketone	No	Yes – 1193	Yes
64-17-5	Ethyl alcohol	No	Yes	Yes
107-98-2	2-Propanol, 1-Methoxy-	No	Yes – 3092	Yes
25085-75-0	Formaldehyde, polymer with 4,4'-(1-methylethylidene)bis[phenol]	No	No	No
80-05-7	4,4'-Isopropylidenediphenol	Yes: RTox(F)	Yes	Yes
67-63-0	Isopropyl alcohol	No	Yes – 1219	Yes
108-83-8	Diisobutyl ketone	No	Yes – 1157	Yes

CAS #	Hazardous components	New Zealand IOC	China IECSC	Japan ENCS
78-93-3	Methyl Ethyl Ketone	Yes	Yes	Yes – 2-542
64-17-5	Ethyl alcohol	Yes	Yes	Yes – 5-153
107-98-2	2-Propanol, 1-Methoxy-	Yes	Yes	Yes – 7-97
25085-75-0	Formaldehyde, polymer with 4,4'-(1-methylethylidene)bis[phenol]	Yes	Yes	Yes-7-915
80-05-7	4,4'-Isopropylidenediphenol	Yes	Yes	Yes -4-123
67-63-0	Isopropyl alcohol	Yes	Yes	Yes -2-207
108-83-8	Diisobutyl ketone	Yes	Yes	Yes 2-2475

CAS #	Hazardous components	Japan ISHL	Korea ECL	Philippines
78-93-3	Methyl Ethyl Ketone	No	Yes – KE-24094	Yes
64-17-5	Ethyl alcohol	No	Yes – KE-13217	Yes
107-98-2	2-Propanol, 1-Methoxy-	No	Yes – KE-23379	Yes
25085-75-0	Formaldehyde, polymer with 4,4'-(1-methylethylidene)bis[phenol]	No	Yes – KE-17155	Yes
80-05-7	4,4'-Isopropylidenediphenol	No	Yes – KE-23982	Yes
67-63-0	Isopropyl alcohol	Yes 2-(-8)-319	Yes – KE – 29363	Yes
108-83-8	Diisobutyl ketone	Yes 2-(-8)-16	Yes – KE – 10907	Yes

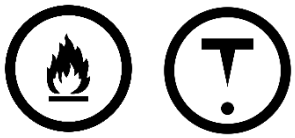
CAS #	Hazardous components	Taiwan TCSCA	Singapore HSL	Israel HSL:
78-93-3	Methyl Ethyl Ketone	Yes	No	No
64-17-5	Ethyl alcohol	Yes	No	Yes - Cat
107-98-2	2-Propanol, 1-Methoxy-	Yes	No	No
25085-75-0	Formaldehyde, polymer with 4,4'-(1-methylethylidene)bis[phenol]	Yes	No	No
80-05-7	4,4'-Isopropylidenediphenol	166-01 (4)	No	No
67-63-0	Isopropyl alcohol	Yes	No	Yes – Cat.
108-83-8	Diisobutyl ketone	Yes	No	No

CAS #	Hazardous components	Germany WHCS	Switzerland Giftliste 1	Switzerland INNS
78-93-3	Methyl Ethyl Ketone	Yes – 150	Yes G-2429	No
64-17-5	Ethyl alcohol	Yes – 96	Yes – G-1158	No
107-98-2	2-Propanol, 1-Methoxy-	Yes – 1597	Yes – G-2805	No
25085-75-0	Formaldehyde, polymer with 4,4'-(1-methylethylidene)bis[phenol]	No	No	No
80-05-7	4,4'-Isopropylidenediphenol	Yes -1308	Yes - G-2163	Yes
67-63-0	Isopropyl alcohol	Yes – 135	Yes - G-1712	No
108-83-8	Diisobutyl ketone	Yes - 591	Yes G-1546	No

CAS #	Hazardous components	REACH	Kyoto GHG	Rotterdam
78-93-3	Methyl Ethyl Ketone	Yes – (R), (P)	No	No
64-17-5	Ethyl alcohol	Yes – (R), (P)	No	No
107-98-2	2-Propanol, 1-Methoxy-	Yes – (R), (P)	No	No
25085-75-0	Formaldehyde, polymer with 4,4'-(1-methylethylidene)bis[phenol]	Yes – (P)	No	No
80-05-7	4,4'-Isopropylidenediphenol	Yes – (R), (P)	No	No
67-63-0	Isopropyl alcohol	Yes – (R), (P)	No	No
108-83-8	Diisobutyl ketone	Yes – (R), (P)	No	No

CAS #	Hazardous components	Stockholm
78-93-3	Methyl Ethyl Ketone	No
64-17-5	Ethyl alcohol	No
107-98-2	2-Propanol, 1-Methoxy-	No
25085-75-0	Formaldehyde, polymer with 4,4'-(1-methylethylidene)bis[phenol]	No
80-05-7	4,4'-Isopropylidenediphenol	No
67-63-0	Isopropyl alcohol	No
108-83-8	Diisobutyl ketone	No

Canadian WHMIS Classification:



CLASS B, DIVISION 2: Flammable Liquids
CLASS D, DIVISION 2, SUBDIVISION B: Toxic Materials (Mutagenicity, skin sensitization, irritation, etc.)

15.2 Chemical safety assessment

Section 16: Other information

Revision Date: **3/18/2021**
Revision Notes: Revision B: Format updated to (EU) 2015/830.
Additional Information:

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