SAFETY DATA SHEET

Type FD Ink Solvent

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

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Product name Type FD Ink Solvent

Product code IF-D8S, IF-DSPT

2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance: liquid,, Colorless

WARNING! FLAMMABLE LIQUID AND VAPOR. MAY AFFECT THE CENTRAL NERVOUS SYSTEM CAUSING DIZZINESS, HEADACHE OR NAUSEA. MAY CAUSE RESPIRATORY TRACT IRRITATION. MAY BE HARMFUL IF INHALED OR SWALLOWED. MAY CAUSE SKIN AND RESPIRATORY TRACT IRRITATION.PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE DERMATITIS AND BURNS.

Potential Health Effects

Routes of exposure

Inhalation, Skin absorption, Skin contact, Eye Contact, Ingestion

Eye contact

Can cause eye irritation. Symptoms include stinging, tearing, redness, and swelling of eyes. May cause mild eye irritation. Symptoms include stinging, tearing, and redness. Additional symptoms of eye exposure may include: blurred vision

Skin contact

Can cause skin irritation. Prolonged or repeated contact may dry the skin. Symptoms may include redness, burning, and drying and cracking of skin, burns and other skin damage. Additional symptoms of skin contact may include: Blistering Passage of this material into the body through the skin is possible, but it is unlikely that this would result in harmful effects during safe handling and use.

Ingestion

Swallowing small amounts of this material during normal handling is not likely to cause harmful effects. Swallowing large amounts may be harmful. This material can get into the lungs during swallowing or vomiting. This results in lung inflammation and other lung injury.

Inhalation

Breathing of vapor or mist is possible. Breathing small amounts of this material during normal handling is not likely to cause harmful effects. Breathing large amounts may be harmful. Symptoms are not expected at air concentrations below the recommended exposure limits, if applicable (see Section 8.).

Aggravated Medical Condition

Preexisting disorders of the following organs (or organ systems) may be aggravated by exposure to this material:, upper respiratory tract, Skin, lung (for example, asthma-like conditions), Liver, kidney, Central nervous system, male reproductive system, auditory system, Individuals with preexisting heart disorders maybe more susceptible to arrhythmias (irregular heartbeats) if exposed to high concentrations of this material.

Symptoms

Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include:, metallic taste, redness of the skin, stomach or intestinal upset (nausea, vomiting, diarrhea), irritation (nose, throat, airways), discomfort in the chest, central nervous system excitation (giddiness, liveliness, light-headed feeling) followed by central nervous system depression (dizziness, drowsiness, weakness, fatigue, nausea, headache, unconsciousness) and other central nervous system effects, temporary changes in mood and behavior, effects on memory, weakness, respiratory depression (slowing of the breathing rate), shortness of breath, lack of coordination, confusion, irregular heartbeat, narcosis (dazed or sluggish feeling), coma, and death

Target Organs

Prolonged intentional toluene abuse may lead to damage to many organ systems having effects on: central and peripheral nervous systems, vision, hearing, liver, kidneys, heart and blood. Such abuse has been associated with brain damage characterized by disturbances in gait, personality changes and loss of memory. Comparable central nervous system effects have not been shown to result from occupational exposure to toluene., Prolonged intentional toluene abuse may lead to hearing loss progressing to deafness. In addition, while noise is known to cause hearing loss in humans, it has been suggested that workers exposed to organic solvents, including toluene, along with noise may suffer greater hearing loss than would be expected from exposure to noise alone.,

Type FD Ink Solvent

Overexposure to this material (or its components) has been suggested as a cause of the following effects in laboratory animals:, respiratory tract damage (nose, throat, and airways), testis damage, kidney damage, liver damage, effects on hearing, central nervous system damage, Overexposure to this material (or its components) has been suggested as a cause of the following effects in humans:, central nervous system effects, kidney damage

Carcinogenicity

Ethylbenzene has been shown to cause cancer in laboratory animals. The relevance of this finding to humans is uncertain. The International Agency for Research on Cancer (IARC) has classified ethylbenzene as a possible human carcinogen.

Reproductive hazard

This material (or a component) may be harmful to the human fetus based on positive test results with laboratory animals., This material (or a component) has been shown to cause birth defects in laboratory animal studies. The relevance of these findings to humans is uncertain., Toluene may be harmful to the human fetus based on positive test results with laboratory animals. Case studies show that prolonged intentional abuse of toluene during pregnancy can cause birth defects in humans.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Concentration
XYLENE	1330-20-7	>=77%
ETHYL BENZENE	100-41-4	>=22%

4. FIRST AID MEASURES

Eyes

If symptoms develop, immediately move individual away from exposure and into fresh air. Flush eyes gently with water for at least 15 minutes while holding eyelids apart; seek immediate medical attention.

Skin

Remove contaminated clothing. Flush exposed area with large amounts of water. If skin is damaged, seek immediate medical attention. If skin is not damaged and symptoms persist, seek medical attention. Launder clothing before reuse.

Ingestion

Seek medical attention. If individual is drowsy or unconscious, do not give anything by mouth; place individual on the left side with the head down. Contact a physician, medical facility, or poison control center for advice about whether to induce vomiting. If possible, do not leave individual unattended.

Inhalation

If symptoms develop, move individual away from exposure and into fresh air. If symptoms persist, seek medical attention. If breathing is difficult, administer oxygen. Keep person warm and quiet; seek immediate medical attention.

Notes to physician

Hazards: Inhalation of high concentrations of this material, as could occur in enclosed spaces or during deliberate abuse, may be associated with cardiac arrhythmias. Sympathomimetic drugs may initiate cardiac arrhythmias in persons exposed to this material. This material is an aspiration hazard. Potential danger from aspiration must be weighed against possible oral toxicity (See Section 2 - Swallowing) when deciding whether to induce vomiting.

Treatment: No information available.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Dry chemical, Foam, Carbon dioxide (CO2)

Hazardous combustion products

carbon dioxide and carbon monoxide, hydrocarbons

Precautions for fire-fighting

Material is volatile and readily gives off vapors which may travel along the ground or be moved by ventilation and ignited by pilot lights, flames, sparks, heaters, smoking, electric motors, static discharge or other ignition sources at locations near the material handling point. Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively.Wear full firefighting turn-out gear (full Bunker gear), and respiratory protection (SCBA).

Flammability Class for Flammable Liquids

Flammable Liquid Class IC

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

For personal protection see section 8. Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Stop spill at source. Prevent from entering drains, sewers, streams or other bodies of water. Prevent from spreading. If runoff occurs, notify authorities as required. Pump or vacuum transfer spilled product to clean containers for recovery. Absorb unrecoverable product. Transfer contaminated absorbent, soil and other materials to containers for disposal.

Environmental precautions

Prevent run-off to sewers, streams or other bodies of water. If run-off occurs, notify proper authorities as required, that a spill has occurred.

Methods for cleaning up

Absorb liquid on vermiculite, floor absorbent or other absorbent material.

7. HANDLING AND STORAGE

Handling

Containers of this material may be hazardous when emptied. Since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed. Static ignition hazard can result from handling and use. Electrically bond and ground all containers, personnel and equipment before transfer or use of material. Special precautions may be necessary to dissipate static electricity for non-conductive containers. Use proper bonding and grounding during product transfer as described in National Fire Protection Association document NFPA 77.

Storage

No data

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines

XYLENE	**1330-20-7**	
ACGIH	time weighted average	100 ppm
ACGIH	Short term exposure limit	150 ppm
OSHA Z1	Permissible exposure limit	100 ppm
OSHA Z1	Permissible exposure limit	435 mg/m3
NIOSH	Recommended exposure limit (REL):	100 ppm
NIOSH	Recommended exposure limit	435 mg/m3

	(REL):	
NIOSH	Short term exposure limit	150 ppm
NIOSH	Short term exposure limit	655 mg/m3
ETHYL BENZENE	**100-41-4**	
ACGIH	time weighted average	100 ppm
ACGIH	Short term exposure limit	125 ppm
NIOSH	Recommended exposure limit (REL):	100 ppm
NIOSH	Recommended exposure limit (REL):	435 mg/m3
NIOSH	Short term exposure limit	125 ppm
NIOSH	Short term exposure limit	545 mg/m3
OSHA Z1	Permissible exposure limit	100 ppm
OSHA Z1	Permissible exposure limit	435 mg/m3

General advice

These recommendations provide general guidance for handling this product. Personal protective equipment should be selected for individual applications and should consider factors which affect exposure potential, such as handling practices, chemical concentrations and ventilation. It is ultimately the responsibility of the employer to follow regulatory guidelines established by local authorities.

Exposure controls

Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below TLV(s).

Eye protection

Chemical splash goggles in compliance with OSHA regulations are advised; however, OSHA regulations also permit other type safety glasses. Consult your safety representative.

Skin and body protection

Wear resistant gloves (consult your safety equipment supplier).
To prevent repeated or prolonged skin contact, wear impervious clothing and boots.

Respiratory protection

If workplace exposure limit(s) of product or any component is exceeded (see exposure guidelines), a NIOSH-approved air supplied respirator is advised in absence of proper environmental control. OSHA regulations also permit other NIOSH respirators (negative pressure type) under specified conditions (see your industrial hygienist). Engineering or administrative controls should be implemented to reduce exposure.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	liquid
Form	No data
Colour	Colorless
Odour	mild, aromatic
Boiling point/boilingrange	137.00 °C / 278.60 °F
Melting point/range	-52.60 °F / -47.00 °C
pH	7
Flash point	79.99 °F / 26.66 °C
Evaporation rate	0.86 (N-Butyl Acetate)
Explosion limits	1.0 %(V) 6.6 %(V)
Vapour pressure	1.06 kPa @ 77 °F / 25 °C
Vapour density	3.66 (AIR=1)
Density	0.87 g/cm3 @ 68 °F / 20 °C 7.25 lb/gal @ 77 °F / 25 °C
Solubility	negligible in water
Partition coefficient: n-octanol/water	No data
Autoignition temperature	980 °F / 527 °C

10. STABILITY AND REACTIVITY

Stability

Stable.

Conditions to avoid

Incompatible products

strong oxidizing agents

Hazardous decomposition products

carbon dioxide and carbon monoxide, hydrocarbons

Hazardous reactions

Product will not undergo hazardous polymerization.

Thermal decomposition

No data

11. TOXICOLOGICAL INFORMATION

Acute oral toxicity

XYLENE	LD 50 Rat: 4,300 mg/kg
ETHYL BENZENE	LD 50 Rat: 3,500 mg/kg

Acute inhalation toxicity

ETHYL BENZENE	LC Lo Rat: 4000 ppm, 4 h

Acute dermal toxicity

XYLENE	LD 50 Rabbit: > 2,000 mg/kg
ETHYL BENZENE	LD 50 Rabbit: 15,433 mg/kg

12. ECOLOGICAL INFORMATION

Aquatic toxicity

Acute and Prolonged Toxicity to Fish

96 h LC 50 Rainbow trout,donaldson trout (Oncorhynchus mykiss), : 6.7 - 10 mg/l
Mortality
96 h LC 50 Fathead minnow (Pimephales promelas), : 23.53 - 29.97 mg/l
Mortality

Acute Toxicity to Aquatic Invertebrates

24 h LC 50 Water flea (Daphnia magna), : > 100 - < 1,000 mg/l
Mortality

Environmental fate and pathways

No data

13. DISPOSAL CONSIDERATIONS

Waste disposal methods

Dispose of in accordance with all applicable local, state and federal regulations. For assistance with your waste management needs - including disposal, recycling and waste stream reduction, contact Ashland Distribution's Environmental Services Group at 800-637-7922.

14. TRANSPORT INFORMATION

IMDG:
UN1307, XYLENES 3, III
IATA_P:
UN1307, Xylenes 3, III
IATA_C:
UN1307, Xylenes 3, III
CFR_ROAD:
UN1307, Xylenes 3, III
CFR_RAIL:
UN1307, Xylenes 3, III
CFR_INWTR:
UN1307, Xylenes 3, III

Dangerous goods descriptions (if indicated above) may not reflect package size, quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

15. REGULATORY INFORMATION

California Prop. 65
WARNING! This product contains a chemical known in the State of California to cause cancer.
BENZENE
ETHYL BENZENE

WARNING! This product contains a chemical known in the State of California to cause birth defects or other reproductive harm.
TOLUENE
BENZENE

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Type FD Ink Solvent

SARA Hazard Classification	Fire Hazard Acute Health Hazard Chronic Health Hazard

SARA 313 Component(s)

XYLENE	1330-20-7	77%
ETHYL BENZENE	100-41-4	22%

	Health	Flammability	Reactivity	Other
HMIS	2*	3	0	
NFPA	2	3	0	

16. OTHER INFORMATION

*** Disclaimer ***

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process.

Such information is, to the best of our knowledge and belief, accurate and reliable as of the date indicated. However, no representation, warranty or guarantee is made as to its accuracy, reliability or completeness. It is the users responsibility to satisfy himself as to the suitability and completeness of such information for his own particular use.