

Section 4. First aid measures

- Eye contact** : Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
- Skin contact** : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention if symptoms appear.
- Inhalation** : Move exposed person to fresh air. Keep person warm and at rest. Get medical attention if symptoms occur.
- Ingestion** : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if symptoms occur.
- Notes to physician** : No specific antidote. Medical staff must contact Poison Control Center.

Section 5. Fire fighting measures

- Flammability of the product** : Non-flammable.
- Fire hazards in the presence of various substances** : Slightly flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.
Use an extinguishing agent suitable for the surrounding fire.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

- Personal precautions** : Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment .
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.
- Methods for cleaning up** : If emergency personnel are unavailable, contain spilled material. For small spills add absorbent (soil may be used in the absence of other suitable materials) scoop up material and place in a sealed, liquid-proof container for disposal. For large spills dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Place spilled material in an appropriate container for disposal.

Section 7. Handling and storage

- Handling** : Wash thoroughly after handling.
- Storage** : Keep container tightly closed. Keep container in a cool, well-ventilated area.

Section 8. Exposure Controls, Personal Protection

- Engineering controls** : Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective occupational exposure limits.
- Personal protection**
- Eyes** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.
Recommended: Safety glasses.
- Respiratory** : Not applicable.
- Hands** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
>8 hour/hours (breakthrough time): Disposable vinyl gloves.
- Skin/Body** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Body: Recommended: Lab coat.



Personal protection in case of a large spill : Safety glasses, goggles or face shield. Impervious gloves. Full suit. Boots. Wear NIOSH approved self-contained breathing apparatus or equivalent and full protective gear.

Product name

Exposure limits

United States

Glycerin, (Glycerol)

ACGIH TLV (United States, 9/2004).

TWA: 10 mg/m³ 8 hour/hours. Form: Mist

OSHA PEL (United States, 8/1997).

TWA: 5 mg/m³ 8 hour/hours. Form: Respirable fraction

TWA: 15 mg/m³ 8 hour/hours. Form: All forms.

Carbon Black

ACGIH TLV (United States, 1/2004).

TWA: 3.5 mg/m³ 8 hour/hours. Form: All forms.

NIOSH REL (United States, 12/2001).

TWA: 3.5 mg/m³ 10 hour/hours. Form: All forms.

OSHA PEL (United States, 8/1997).

TWA: 3.5 mg/m³ 8 hour/hours. Form: All forms..

Canada

Glycerin, (Glycerol)

ACGIH TLV (Canada, 9/2004).

TWA: 10 mg/m³ 8 hour(s). Form: Mist

Carbon Black

ACGIH TLV (Canada, 1/2004).

TWA: 3.5 mg/m³ 8 hour/hours. Form: All forms.

Mexico

Glycerin, (Glycerol)

NOM-010-STPS (Mexico, 9/2000).

CPT: 10 mg/m³ 8 hour(s). Form: Mist

Consult local authorities for acceptable exposure limits.

Section 9. Physical and chemical properties

Physical state	: Liquid.
Color	: Gray
Odor	: Slightly.
PH	: 9.0-10.2
Boiling/condensation point	: 100°C (212°F) .
Melting/freezing point	: 0°C (32°F)
Specific gravity	: 1.08(Water = 1)
Vapor pressure	: The highest known value is 2.3 kPa (17.5 mm Hg) (at 20°C) (Water).
Vapor density	: >1(Air = 1)
Evaporation rate	: >1 (Glycerin, (Glycerol)) compared with Ether (anhydrous).
Viscosity	: Dynamic: <500 cP
Ionicity (in water)	: Amphoteric. (Water).
Dispersion properties	: See solubility in water, methanol, acetone.
Solubility	: Miscible in water.

Section 10. Stability and reactivity

Stability and reactivity	: The product is stable.
Incompatibility with various substances	: Reactive with oxidizing agents.
Hazardous polymerization	: Will not occur.

Section 11. Toxicological information

Toxicity data

Ingredient name	Test	Result	Route	Species
Glycerin, (Glycerol)	LD50	12600 mg/kg	Oral	Rat
	LD50	4090 mg/kg	Oral	Mouse
	LD50	7750 mg/kg	Oral	Guinea pig
	LD50	>15400 mg/kg	Oral	Rat
Carbon Black	LD50	>15400 mg/kg	Oral	Rat

Acute Effects

- Eyes** : No known significant effects or critical hazards.
- Skin** : No known significant effects or critical hazards.
- Inhalation** : No known significant effects or critical hazards.
- Ingestion** : May be harmful if swallowed.

Potential chronic health Effects

- : Carcinogenic effects: Classified + (Proven.) by NIOSH [Carbon Black]. Classified 2B (Possible for humans.) by IARC [Carbon Black]. Classified A4 (Not classifiable for humans or animals.) by ACGIH [Carbon Black].
- Mutagenic effects: Not available.
- Teratogenic effects: Not available.

Section 12. Ecological information

Ecotoxicity data

Ingredient name	Species	Period	Result
Glycerin, (Glycerol)	Oncorhynchus mykiss (LC50)	96 hour/hours	54000 mg/l

Products of degradation : These products are carbon oxides and water .

Section 13. Disposal considerations

- Waste disposal** : The generation of waste should be avoided or minimized wherever possible. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

Consult your local or regional authorities.

Section 14. Transport information

Classification :

Mexico / TDG/ DOT/ IMDG/ IATA: Not regulated.

Label

Not applicable.

Additional information

Not applicable.

Section 15. Regulatory information

United States

- HCS Classification** : Carcinogen
- U.S. Federal regulations** : TSCA : All components listed.

Ink Cartridge(LB) (H086042-00-05-NA-E)

SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: Glycerin, (Glycerol)
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Glycerin, (Glycerol): Immediate (acute) Health Hazard, Delayed (chronic) health hazard
Clean Water Act (CWA) 307: No products were found.
Clean Water Act (CWA) 311: No products were found.
Clean air act (CAA) 112 accidental release prevention: No products were found.
Clean air act (CAA) 112 regulated flammable substances: No products were found.
Clean air act (CAA) 112 regulated toxic substances: No products were found..

State regulations

: Pennsylvania RTK: Glycerin, (Glycerol): (generic environmental hazard); Carbon Black: (generic environmental hazard)
Massachusetts RTK: Glycerin, (Glycerol); Carbon Black
New Jersey: Carbon Black

WARNING: This product contains a chemical known to the State of California to cause cancer.

Ingredient name

Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
Yes.	No.	No.	No.

Carbon Black

Canada

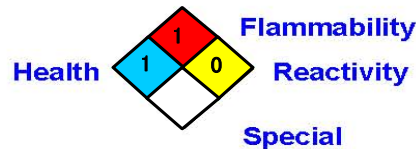
WHMIS (Canada)

: Class D-2A: Material causing other toxic effects (Very toxic).
DSL : All components listed.

Mexico

Classification

:



International regulations

International lists

: All components listed are listed on major international inventories or exempted from being listed in Australia (AICS), Europe (EINECS/ELINCS), Korea (TCCL), Japan (METI/MOL), Philippines (RA6969).

Section 16. Other information

Label requirements

: CANCER HAZARD.
CONTAINS MATERIAL WHICH CAN CAUSE CANCER.

Hazardous Material

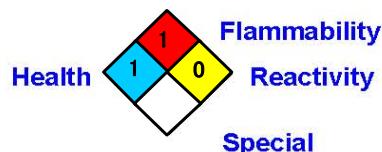
Information System (U.S.A.)

:

Health	*	1
Fire hazard		1
Reactivity		0
Personal protection		C

National Fire Protection Association (U.S.A.)

:



Ink Cartridge(LB) (H086042-00-05-NA-E)

References

: ANSI Z400.1, MSDS Standard, 2004. -Manufacturer's Material Safety Data Sheet. - 29CFR Part1910.1200 OSHA MSDS Requirements. - 49CFR Table List of Hazardous Materials, UN#, Proper Shipping Names, PG. -Canada Gazette Part II, Vol. 122, No. 2 Registration SOR/88-64 31 December, 1987 Hazardous Products Act "Ingredient Disclosure List". - Canadian Transport of Dangerous Goods, Regulations and Schedules, Clear Language version 2005. - Official Mexican Standards NOM-018-STPS-2000 and NOM-004-SCT2-1994.

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Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.