

SAFETY DATA SHEET

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

Product identifier

Product Name: BM-Endo Developer

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

Recommended Use(s): Ready to use X-Ray developer solution

Details of the supplier of the safety data sheet

Manufacturer:	N.A.K.P Foto Inc. 2575 De Miniac Ville Saint Laurent, Quebec H4S 1E5 Canada	Distributor:	B.M. Group Inc. 5890 Monkland Avenue, Suite 16 Montreal Quebec H4A 1G2 Canada
Website:	www.nakpfoto.com	Website :	http://www.bmcanada.ca
Email:	paul@nakpfoto.com	Email:	info@bmcanada.ca
Tel (514) 932-8057		Tel: (514) 738-5200 Toll Free 1-800-561-9818	
Fax (514) 932-8057		Fax: (514) 738-2290	

Emergency telephone number

Emergency contact: 1-800-463-5060 Poison Control Center in Quebec, Canada
Canutec: 613-996-6666

Notes:

While this photographic grade solution is generally safe and high performing during normal use as per directions on label and as per guidelines in this SDS, this SDS also contains valuable information critical to the safe handling and proper use of the product for large production plants, industrial workplace conditions as well as unusual and unintended exposures such as large spills. This SDS should be retained and available for employees and other users of this product.

Section 2. Hazards identification

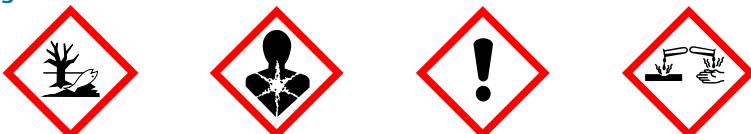
Classification of the substance or mixture

GHS Classification for mixture:

Hazardous to the aquatic environment, long-term (Chronic) - Category 2
Hazardous to the aquatic environment, short-term (Acute) - Category 2
Carcinogenicity - Category 2
Germ cell mutagenicity - Category 2
Skin sensitization - Category 1
Serious eye damage - Category 1
Skin corrosion - Category 1

Label elements

Pictograms:



Signal Words:

Danger

Hazard Statements:

Causes severe skin burns and eye damage.
 May cause an allergic skin reaction.
 Causes serious eye damage.
 Suspected of causing cancer.
 Suspected of damaging fertility or the unborn child.
 Toxic to aquatic life.
 Toxic to aquatic life with long lasting effects.

Precautionary Statements:**Prevention**

Obtain special instructions before use.
 Do not handle until all safety precautions have been read and understood.
 Do not breathe dust, mist.
 Avoid breathing dust, vapors, mist, fume, gas, spray.
 Wash hands thoroughly after handling.
 Contaminated work clothing should not be allowed out of the workplace.
 Avoid release to the environment.
 Wear protective gloves, eye protection, protective clothing, face protection.

Response

Immediately call a POISON CENTER, doctor.
 If exposed or concerned: Get medical attention.
 If skin irritation or rash occurs: Get medical attention.
 Rinse mouth.
 IF SWALLOWED: Do NOT induce vomiting.
 IF IN EYES: Remove contact lenses, if present and easy to do. Continue rinsing.
 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 IF IN EYES: Rinse cautiously with water for several minutes.
 IF ON SKIN: Wash with plenty of water.
 IF ON SKIN (or hair): Rinse skin with water or shower
 IF ON SKIN (or hair): Take off immediately all contaminated clothing.
 Collect spillage.

Storage

Store locked up.

Disposal

Dispose of contents as per local regulations. Dispose of container as per local regulations.

Section 3. Composition/information on ingredients**Substances**

No available data for this section.

Mixtures

Identifiers	Ingredients	Percentage	Classification
10117-38-1	Potassium Sulfite	10%	
1310-58-3	Potassium Hydroxide	5%	
123-31-9	Hydroquinone	4%	

Section 4. First-Aid Measures**Description of First Aid Measures****In the event of splashes or contact with eyes**

Immediately flush with clean, low-pressure water for several minutes. Hold eyelids open to ensure adequate flushing. Remove the contact lenses if worn and easy to do that. Immediately seek medical attention.

In the event of splashes or contact with skin

Take off all contaminated clothing and wash it before reuse. If redness or other symptoms occur, seek medical attention. Wash contaminated areas thoroughly with soft nonabrasive soap and cold water.

In the event of ingestion

DO NOT INDUCE VOMITING. If swallowed, call a physician immediately. Only induce vomiting at the instructions of a physician. Never give anything by mouth to an unconscious person. Immediately seek medical attention. If spontaneous vomiting occurs, lean the exposed person forward to reduce the risk of aspiration. Monitor for breathing difficulties. Small amounts of material which enter the mouth should be rinsed out until the taste is dissipated. In case of ingestion of large quantities immediately take the exposed person to hospital. If after ingestion you feel unwell, seek medical advice. If the exposed person is drowsy or unconscious, do not give anything by mouth. If the exposed person is conscious, give 2-3 cups of water or liquid. Immediately seek medical attention. Rinse mouth with water.

In the event of inhalation

Remove person to fresh air and keep at rest in a position comfortable for breathing. Loosen tight clothing such as a collar, tie, belt, or waistband. If person is not breathing, provide artificial respiration. If necessary, provide additional oxygen once breathing is restored if trained to do so. Seek medical attention immediately. WARNING: It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious, or corrosive.

Most important symptoms and effects, both acute and delayed

No available data for this section.

Indication of any immediate medical attention and special treatment needed

No available data for this section.

Section 5. Firefighting Measures

Extinguishing media

Suitable Extinguishing Media

The suggested appropriate media: Alcohol-type or universal-type foams. Carbon dioxide. Dry chemical. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

The product is not flammable or combustible.

Unsuitable Extinguishing Media

No available data for this section.

Special hazards arising from the substance or mixture

Specific Hazards Arising from Combustion of Products

Fire / decomposition hazards: Toxic gases.

Combustion Products

Oxides of carbon (CO_x).

Advice for firefighters

Protective Measures for Fire-Fighting

Wear self-contained breathing apparatus. Wear full protective clothing.

Special Protective Actions for Fire-Fighters

Avoid being exposed to gas / mist / dust / fume / vapor / spray / particles.

Other Information for Fire Fighters

Carbon dioxide is produced by decomposition of the hydroquinone. Potassium Hydroxide and hydroquinone dust are corrosive.

Section 6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

For large spills inside: Evacuate the room of anyone not wearing a self-contained breathing apparatus and who is not wearing approved protective equipment.

For minor spills: Ventilate spill area. Wear protective gloves, clothing, and protective goggles to prevent contact with skin and eyes.

Keep bystanders upwind and away from danger point. Evacuate the people from the area. Mark out the contaminated area with signs.

Environmental precautions

Do not discharge into drains or any body of water (rivers, streams, ponds, lakes, etc). If the product has entered a water course or sewer or contaminated soil or vegetation, advise the local emergency services and environmental authorities.

Methods and material for containment and cleaning up

Large spills: Ventilate area of leak or spill. Absorb with earth, sand, or other non-combustible material. If possible, the spilled liquid should be transferred to a waste container. Residual liquid should be absorbed and placed in separate container. Dispose of the material in accordance with government regulations.

Small spill: Dilute with water and absorb into dry earth or sand. Transfer to a closable, labeled salvage container for disposal by an appropriate method.

Reference to other sections

No available data for this section.

Section 7. Handling and Storage

Precautions for safe handling

Avoid direct contact with the substance (solid / liquid / vapor). Ensure there is sufficient ventilation of the area. Do not handle in a confined space. Avoid breathing gas / mist / dust / fume / vapor / spray / particles. Check container for defect or leakage before handling. Protect against physical damage. Keep container tightly closed. Wash Hands thoroughly after handling. Report immediately if physical damage, leakage, or spillage occurs. Eye wash stations and showers are recommended in areas where product is stored in large quantities. For small volume use, ensure there is a sink nearby which employees can use to flush their eyes and skin appropriately in the event of accidental exposure.

Conditions for safe storage, including any incompatibilities

Conditions for Safe Storage

Keep away from: Direct sunlight.

Store only in well-ventilated areas. Keep container closed when not in use.

Suitable Packaging

Store in original container / packaging.

Incompatible Materials

Oxidizing materials. Acidic materials.

Specific end use(s)

No available data for this section.

Section 8. Exposure Controls / Personal Protection

Control parameters

Control Parameters / Limits for Product

No available data for this section.

Control Parameters / Limits for Component**Hydroquinone**

Ontario, Canada OEL (TWAEV) 2.000000 mg/m³.

British Columbia, Canada OEL (TWA) 1.000000 mg/m³.

ACGIH TLV 1.000000 mg/m³.

Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants (TWAEV) 2 mg/m³.

Potassium Hydroxide

OSHA PEL (Vacated) 2 mg/m³, Ceiling.

ACGIH 2 mg/m³, Ceiling.

Potassium Sulfite

Ontario, Canada OEL (TWAEV) 10 mg/m³.

Exposure controls**Engineering Measures**

Eye wash stations should be easily accessible to areas where product is stored, handled, or used. For small volume use, ensure there is a sink nearby which employees can use to flush their eyes and skin appropriately in the event of accidental exposure. Provide adequate general and local exhaust ventilation.

Respiratory Protection

Certified self-contained breathing apparatus must be available in case of emergency. Respiratory protection is required if the concentrations exceed the TLV.

Eye/Face Protection

Wear safety goggles. In industrial plants or large production areas, ensure eye-wash stations are available. For use in small settings or offices, a procedure and training for washing eyes in a sink is recommended.

Skin and Body Protection

Wear appropriate chemical resistant clothing.

Hand Protection

Ensure gloves are certified. Wear impermeable gloves.

Hygiene Measures

No available data for this section.

Environmental exposure controls

No available data for this section.

Section 9. Physical and chemical properties

Information on basic physical and chemical properties

Physical State	Liquid
Appearance	Clear, Slight Yellow
Odor	Odorless
Odor threshold	Not available
pH	Not available
Melting point	Not available
Boiling point	100°C / 212°F
Flash Point	Not available
Evaporation rate	Not available
Flammability	Liquid Non flammable
Flammability limit	Not available
Vapor pressure	18 mmHg
Vapor density	0.6 g/cm ³
Relative density	Not available
Solubility	Soluble
Solubility in other solvents	Not available
Partition coefficient	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
Viscosity	Not available
Freezing point	Not available
Percent volatiles	85 %vol
Evaporation rate w/r/t ether	Not available
Evaporation rate w/r/t butyl acetate	0.36
Relative density w/r/t water	1.104
Relative density w/r/t air	Not available

Other Information

No available data for this section.

Section 10. Chemical Stability & Reactivity Information

Reactivity

Chemical stability: This product is stable under ambient condition.

Chemical Stability

No available data for this section.

Possibility of Hazardous Reactions

The product decomposes in high temperatures and produces toxic gas or vapor.

Conditions to Avoid

Keep away from: Direct sunlight. Fire. Heat.

Incompatible Materials

Avoid contact or storage with: Acidic materials. Metal surfaces. Strong oxidizers.

Hazardous Decomposition Products

Decomposition will Result in Production of: Carbon dioxide (CO₂). Oxides of sulfur (SO_x). Oxides of Potassium.

Section 11. Toxicological Information

Information on toxicological effects

Toxicological Information for Product

No available data for this section.

Toxicological Information for Component

Hydroquinone

IARC	Group 3: Not classifiable as to its carcinogenicity to humans.
Carcinogenicity	This product is or contains a component that has been reported to be possibly carcinogenic based on its IARC, ACGIH, NTP, or EPA classification. Limited evidence of carcinogenicity in animal studies.
Germ Cell Mutagenicity	Laboratory experiments have shown mutagenic effects. In vitro tests showed mutagenic effects.
LD 50 Dermal	>2000 mg/kg, Rabbit.
LD 50 Oral	367.3 mg/kg, Rat. 302-320 mg/kg, Rat. 245 - 350 mg/kg, Mouse. 200 mg/kg, Rabbit.

Potassium Hydroxide

LD 50 Oral	333 mg/kg, Rat. 2967 mg/kg, Rat.
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Irritation/Corrosion Information for Product

No available data for this section.

Irritation/Corrosion Information for Component

No available data for this section.

Section 12. Ecological Information

Toxicity

Ecotoxicity Values for Product

No available data for this section.

Ecotoxicity Values for Component

Hydroquinone

LC 50 Fish: 259.7 u/l, Rainbow Trout, Donaldson Trout. 0.04 - 0.1 mg/l(96hr), Oncorhynchus mykiss (rainbow trout). 0.097 mg/L(96hr), Rainbow Trout. 0.1 - 0.18 mg/L(96hr), Fathead Minnow.

Crustaceans: Highly Aquatic Toxic.

EC 50 Invertebrates: 0.13 mg/l(48hr), Daphnia magna (water flea).

Potassium Sulfite

LC 50 Fish: 220 - 460 mg/L(96h), Leuciscus idus.

Potassium Hydroxide

LC 50 Fish: 80 mg/l(6hr), Gambusia affinis (mosquito fish). 50 mg/l(24h), Salvelinus fontinalis (brook trout). 165 mg/l(24hr), Poecilia reticulata.

Persistence and degradability

No available data for this section.

Bioaccumulative potential

Bioaccumulative Potential for Product

No available data for this section.

Bioaccumulative Potential for Component

No available data for this section.

Mobility in soil

No available data for this section.

Results of PBT and vPvB assessment

No available data for this section.

Other adverse effects

No available data for this section.

Section 13. Disposal Considerations

Waste treatment methods

Waste Disposal Regulation(s) / Operation

Solution cannot go down the drain. Transfer to a suitable container and arrange for collection by specialized disposal company. May be discharged to wastewater treatment installation. Avoid release to the environment. Users need to pay attention to the possible existence of regional or national regulations regarding disposal. Disposal, treatment, or recycling of industrial waste must comply with applicable regulations to preserve the environment.

Waste Treatment Methods

No available data for this section.

Section 14. Transportation Information

	ADR	IMDG	IATA	DOT
UN number	No available data for this section.	No available data for this section.	No available data for this section.	UN 1760
UN proper shipping name	No available data for this section.	No available data for this section.	No available data for this section.	Corrosive Liquids, N.O.S (Potassium Hydroxide)
Transport hazard class(es)	No available data for this section.	No available data for this section.	No available data for this section.	8
Packing group	No available data for this section.	No available data for this section.	No available data for this section.	II
Environmental hazards	No available data for this section.	No available data for this section.	No available data for this section.	No available data for this section.
Special precautions for user	No available data for this section.			
Transport in bulk according to Annex II of Marpol and the IBC Code	No available data for this section.			
Other	Limited Quantity 1 L, Box < 30kg			

Section 15. Regulatory Information

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

Safety, Health and Environmental Regulations for Product

No available data for this section.

Safety, Health and Environmental Regulations for Component

Hydroquinone

TSCA:	Present.
SARA:	302/304/311/312 extremely hazardous substances. SARA 313 toxic chemical notification and release reporting. CERCLA: Hazardous substances.
Federal and State Regulations:	PA, MA.

Potassium Hydroxide

Section 12b:	Not present.
DSL (Canada):	Present.
TSCA:	Present.
TSCA Significant New Use Rule:	Not present.
SARA:	Section 302 (RQ): 1000 pounds (454 kg). Section 302 (TPQ): None. SARA Codes: acute, reactive. Section 313: None.
Chemical Test Rules:	Not present.

Potassium Sulfite

Canada:	Listed on Canada's DSL List.
USA:	Listed in the US Food Additive Database. Listed on the United States TSCA Inventory.

Chemical safety assessment

No available data for this section.

Section 16. Other Information

Other Information

No available data for this section.

Disclaimer

The above information is accurate to the best of our knowledge, however since data, safety standards and government regulations change, and the conditions of handling and use or misuse are beyond our control, manufacturer and distributor, above mentioned, make no warranty either expressed or implied with respect to the completeness or continuing accuracy of information herein and disclaims all liability for reliance thereon. Do not use ingredient information and / or ingredient percentages in this SDS as a product specification.

Glossary

ACGIH: American Conference of Governmental Industrial Hygienists.

DOT: Department of Transportation, USA.

LC 50: Lethal Concentration which is lethal to 50% of the population.

LD 50: Lethal Dose which is lethal to 50% of the population.

N/A: Not applicable.

N/AV: Not available.

N/D: Not determined.

OSHA: US Occupational Safety and Health Administration, US Department of Labor.

PEL: Permissible Exposure Limit.

TLV: Threshold Limit Value.

TWA: Time Weighted Average.

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