



# SAFETY DATA SHEET

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II - United Kingdom (UK)

## SECTION 1: Identification of the substance/mixture and of the company/ undertaking

### 1.1 Product identifier

**Product name** : Solvent based BLACK ink 110ml  
**Product code** : BSF- BL 110  
**Trade name** : BLACK INK  
**Index number** :

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

Identified uses	
Colorant; Printing ink related material; Printing ink.	
Uses advised against	Reason
Not applicable.	

### 1.3 Details of the supplier of the safety data sheet

**Manufacturer/ Distributor** : RN Mark Inc.  
25 – 16 Sims Cres  
Richmond Hill, Ontario  
L4B 2P1 Canada  
T: 1 647 931 7236

**e-mail address of person responsible for this SDS** : info@rnmark.com

### 1.4 Emergency telephone number

#### Supplier

**Telephone number** : 1 866 334 5991 ( CANADA / USA - 24 hours)  
1 647 931 7236 ( International-24 hours)

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Product definition** : Mixture

#### Classification according to Directive 1999/45/EC [DPD]

The product is classified as dangerous according to Directive 1999/45/EC and its amendments.

**Classification** : R10  
Xi; R41, R37  
R52/53

**Physical/chemical hazards** : Flammable.

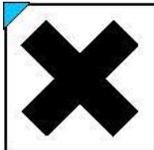
**Human health hazards** : Risk of serious damage to eyes. Irritating to respiratory system.

**Environmental hazards** : Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

See Section 16 for the full text of the R-phrases declared above.

See Section 11 for more detailed information on health effects and symptoms.

### 2.2 Label elements

**Hazard symbol or symbols** : 

**Indication of danger** : Irritant

**Risk phrases** : R10- Flammable.  
R41- Risk of serious damage to eyes.  
R37- Irritating to respiratory system.  
R52/53- Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**Safety phrases** : S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
S39- Wear eye/face protection.

**Supplemental label elements** : Not applicable.

### 2.3 Other hazards

**Other hazards which do not result in classification** : None known.

## SECTION 3: Composition/information on ingredients

**Substance/mixture** : Mixture

Product/ingredient name	Identifiers	%	Classification		Type
			67/548/EEC	Regulation (EC) No. 1272/2008 [CLP]	
ethyl (S) -2-hydroxypropionate	EC: 211-694-1 CAS: 687-47-8 Index: 607-129-00-7	50 < 80	R10 Xi; R41, R37	Flam. Liq. 3, H226 Eye Dam. 1, H318 STOT SE 3, H335	[1]
reaction mass of: tert-alkyl(C12-C14)ammonium bis[1-[(2-hydroxy-5-nitrophenyl)azo]-2-naphthalenolato(2-)]	EC: 403-720-7 CAS: 117527-94-3 Index: 611-044-00-0	5 < 10	N; R51/53	Aquatic Chronic 2, H411	[1]

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**SECTION 3: Composition/information on ingredients**

-chromate(1-); tert-alkyl (C12-C14) ammonium bis[1-[(2-hydroxy-4-nitrophenyl)azo]-2-naphthaleno-lato(2-)]-chromate(1-); tert-alkyl(C12-C14) ammonium bis[1-[[5-(1,1-dimethylpropyl)-2-hydroxy-3-nitrophenyl] azo]-2-naphthalenolato(2-)]-chromate(1-); tert-alkyl (C12-C14) ammonium [1-[(2-hydroxy-5-nitrophenyl)azo]-2-naphthaleno-lato(2-)]-[1-[(2-hydroxy-5-nitrophenyl)azo]-2-naphthalenolato(2-)]-chromate(1-); tert-alkyl (C12-C14) ammonium [1-[[5-(1,1-dimethylpropyl)-2-hydroxy-3-nitrophenyl] azo]-2-naphthalenolato(2-)]-[1-[(2-hydroxy-5-nitrophenyl)azo]-2-naphthaleno-lato(2-)]-chromate(1-); tert-alkyl(C12-C14) ammonium ((1-(4(or 5)-nitro-2-oxidophenylazo)-2-naphtholato)(1-(3-nitro-2-oxido-5-pentylphenylazo)-2-naphtholato)) chromate(1-) 2-methoxy-1-methylethyl acetate	REACH #: 01-2119475791-29 EC: 203-603-9 CAS: 108-65-6 Index: 607-195-00-7	5 < 10	R10	Flam. Liq. 3, H226	[2]
			<b>See Section 16 for the full text of the R-phrases declared above.</b>	<b>See Section 16 for the full text of the H statements declared above.</b>	

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs or vPvBs or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

[3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII

[4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

[5] Substance of equivalent concern

## SECTION 3: Composition/information on ingredients

Occupational exposure limits, if available, are listed in Section 8.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

- General** : In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and seek medical advice.
- Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with room temperature water for at least 15 minutes, keeping eyelids open. In case of accidental eye contact, avoid concurrent exposure to the sun or other sources of UV light which may increase the sensitivity of the eyes.
- Inhalation** : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.
- Skin contact** : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.
- Ingestion** : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

### 4.2 Most important symptoms and effects, both acute and delayed

There are no data available on the mixture itself. The mixture has been assessed following the conventional method of the Dangerous Preparations Directive 1999/45/EC and classified for toxicological hazards accordingly. See Sections 2 and 3 for details.

Exposure to component solvent vapor concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness.

Solvents may cause some of the above effects by absorption through the skin. Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption through the skin.

If splashed in the eyes, the liquid may cause irritation and reversible damage.

Ingestion may cause nausea, diarrhea and vomiting.

This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

### 4.3 Indication of any immediate medical attention and special treatment needed

- Notes to medical doctor** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

- Suitable extinguishing media** : Use dry chemical, CO<sub>2</sub>, water spray (fog) or foam.
- Unsuitable extinguishing media** : Do not use water jet.

## SECTION 5: Firefighting measures

### 5.2 Special hazards arising from the substance or mixture

- Hazards from the substance or mixture** : Fire will produce dense black smoke. Exposure to decomposition products may cause a health hazard.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen.

### 5.3 Advice for firefighters

- Special protective actions for fire-fighters** : Cool closed containers exposed to fire with water. Do not release runoff from fire to drains or watercourses.
- Special protective equipment for fire-fighters** : Appropriate breathing apparatus may be required.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : Exclude sources of ignition and ventilate the area. Avoid breathing vapor or mist. Refer to protective measures listed in sections 7 and 8.
- For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also Section 8 for additional information on hygiene measures.

### 6.2 Environmental precautions

- : Do not allow to enter drains or watercourses. If the product contaminates lakes, rivers, or sewers, inform the appropriate authorities in accordance with local regulations.

### 6.3 Methods and materials for containment and cleaning up

- : Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Preferably clean with a detergent. Avoid using solvents.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

- : Vapors are heavier than air and may spread along floors. Vapors may form explosive mixtures with air. Prevent the creation of flammable or explosive concentrations of vapors in air and avoid vapor concentrations higher than the occupational exposure limits.
- In addition, the product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Electrical equipment should be protected to the appropriate standard.
- To dissipate static electricity during transfer, ground drum and connect to receiving container with bonding strap. Operators should wear antistatic footwear and clothing and floors should be of the conducting type.
- Keep container tightly closed. Keep away from heat, sparks and flame. No sparking tools should be used.
- Avoid contact with skin and eyes. Avoid the inhalation of dust, particulates, spray or mist arising from the application of this mixture. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed.
- Put on appropriate personal protective equipment (see Section 8).
- Never use pressure to empty. Container is not a pressure vessel.
- Always keep in containers made from the same material as the original one.
- Comply with the health and safety at work laws.

## SECTION 7: Handling and storage

- 7.2 Conditions for safe storage, including any incompatibilities** : Store between the following temperatures: 5 - 35 °C
- Store in accordance with local regulations.
- Notes on joint storage**  
Keep away from: oxidizing agents, strong alkalis, strong acids.
- Additional information on storage conditions**  
Observe label precautions. Store in a dry, cool and well-ventilated area. Keep away from heat and direct sunlight. Keep away from sources of ignition. No smoking.  
Prevent unauthorized access. Containers that have been opened must be carefully resealed and kept upright to prevent leakage.
- 7.3 Specific end use(s)**
- Recommendations** : Not available.
- Industrial sector specific solutions** : Not available.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limits

Product/ingredient name	Exposure limit values
2-methoxy-1-methylethyl acetate	<b>EH40/2005 WELs (United Kingdom (UK), 12/2011). Absorbed through skin.</b> STEL: 548 mg/m <sup>3</sup> 15 minutes. STEL: 100 ppm 15 minutes. TWA: 274 mg/m <sup>3</sup> 8 hours. TWA: 50 ppm 8 hours.

- Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

### 8.2 Exposure controls

- Appropriate engineering controls** : Provide adequate ventilation. Where reasonably practicable, this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and solvent vapors below the OEL, suitable respiratory protection must be worn.

#### Individual protection measures

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Use safety eyewear designed to protect against splash of liquids.

## SECTION 8: Exposure controls/personal protection

### Skin protection

- Hand protection** : Barrier creams may help to protect the exposed areas of the skin but should not be applied once exposure has occurred.
- Gloves** : 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. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personnel should wear antistatic clothing made of natural fibers or of high-temperature-resistant synthetic fibers.
- Respiratory protection** : If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators.
- Environmental exposure controls** : Do not allow to enter drains or watercourses.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

- Physical state** : Liquid.
- Color** : Black.
- Odor** : Characteristic.
- Odor threshold** : Not applicable.
- Melting point/freezing point** : Not applicable.
- Flash point** : 55°C
- VOC** : 9%
- pH** : Not tested
- Lower explosion limit** : Lower: 1.5%  
Upper: 7%
- Boiling point** :  Lowest known value: 146°C (294°F)
- Evaporation rate** : Not tested
- Upper/lower flammability or explosive limits** : Not tested
- Vapor pressure** :  0.22 kPa (1.65 mm Hg)
- Vapor density** : Not tested
- Relative density** : Not tested
- Solubility(ies)** : Not tested
- Partition coefficient: n-octanol/water** : Not applicable.
- Auto-ignition temperature** :  Not applicable.
- Decomposition temperature** : Not applicable.
- Viscosity** :  Kinematic: 0.036 cm<sup>2</sup>/s (3.6 cSt)  
Kinematic (40°C): 0.014 cm<sup>2</sup>/s (1.4 cSt)
- Explosive properties** : Not applicable.
- Oxidizing properties** : Not applicable.

### 9.2 Other information

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## SECTION 9: Physical and chemical properties

No additional information.

## SECTION 10: Stability and reactivity

- 10.1 Reactivity** : No specific test data related to reactivity available for this product or its ingredients.
- 10.2 Chemical stability** : Stable under recommended storage and handling conditions (see Section 7).
- 10.3 Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- 10.4 Conditions to avoid** : When exposed to high temperatures may produce hazardous decomposition products.
- 10.5 Incompatible materials** : Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids.
- 10.6 Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

There are no data available on the mixture itself. The mixture has been assessed following the conventional method of the Dangerous Preparations Directive 1999/45/EC and classified for toxicological hazards accordingly. See Sections 2 and 3 for details.

Exposure to component solvent vapor concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness.

Solvents may cause some of the above effects by absorption through the skin. Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption through the skin.

If splashed in the eyes, the liquid may cause irritation and reversible damage.

Ingestion may cause nausea, diarrhea and vomiting.

This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

### 11.1 Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
2-methoxy-1-methylethyl acetate	LD50 Dermal	Rabbit	>5 g/kg	-
	LD50 Oral	Rat	8532 mg/kg	-

#### Irritation/Corrosion

Not determined - Classification according to Directive 1999/45/EC [DPD]

#### Sensitization

Not determined - Classification according to Directive 1999/45/EC [DPD]

#### Mutagenicity

Not applicable.

#### Carcinogenicity

Not applicable.

## SECTION 11: Toxicological information

### Reproductive toxicity

Not determined - Classification according to Directive 1999/45/EC [DPD]

### Teratogenicity

Not applicable.

## SECTION 12: Ecological information

There are no data available on the mixture itself.  
Do not allow to enter drains or watercourses.

The mixture has been assessed following the conventional method of the Dangerous Preparations Directive 1999/45/EC and is classified for eco-toxicological properties accordingly. See sections 2 and 3 for details.

### 12.1 Toxicity

Not available.

### 12.2 Persistence and degradability

Not available.

### 12.3 Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
ethyl (S) -2-hydroxypropionate	0.31	-	low
2-methoxy-1-methylethyl acetate	1.2	-	low

### 12.4 Mobility in soil

**Soil/water partition coefficient (K<sub>oc</sub>)** : Not available.

**Mobility** : Not available.

### 12.5 Results of PBT and vPvB assessment

**PBT** : Not applicable.

**vPvB** : Not applicable.

**12.6 Other adverse effects** : No known significant effects or critical hazards.

## SECTION 13: Disposal considerations

Do not allow to enter drains or watercourses.

Dispose of according to all federal, state and local applicable regulations.

If this product is mixed with other wastes, the original waste product code may no longer apply and the appropriate code should be assigned.

For further information, contact your local waste authority.

### 13.1 Waste treatment methods

#### Product

## SECTION 13: Disposal considerations

**Methods of disposal** : The generation of waste should be avoided or minimized wherever possible. 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. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

### Packaging

**Methods of disposal** : The generation of waste should be avoided or minimized wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

**European Waste Catalogue (EWC):** : 08 03 12 waste ink containing dangerous substances

**Special precautions** : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number	UN1210	UN1210	UN1210	UN1210
14.2 UN proper shipping name	PRINTING INK	PRINTING INK	PRINTING INK	PRINTING INK
14.3 Transport hazard class(es)	3 	3 	3 	3 
14.4 Packing group	III	III	III	III
14.5 Environmental hazards	No.	No.	No.	No.
Additional information	<b>Special provisions</b> 640 (E)  <b>Tunnel code</b> (D/E)	-	-	-

**14.6 Special precautions for user** **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** : Not available.

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## SECTION 14: Transport information

## SECTION 15: Regulatory information

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

#### EU Regulation (EC) No. 1907/2006 (REACH)

#### Annex XIV - List of substances subject to authorization

##### Substances of very high concern

None of the components are listed.

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** : Not applicable.

#### Other EU regulations

**Industrial use** : The information contained in this safety data sheet does not constitute the user's own assessment of workplace risks, as required by other health and safety legislation. The provisions of the national health and safety at work regulations apply to the use of this product at work.

:

**15.2 Chemical Safety Assessment** : This product contains substances for which Chemical Safety Assessments are still to be received.

## SECTION 16: Other information

**CEPE code** : 1

▣ Indicates information that has changed from previously issued version.

**Abbreviations and acronyms** : ATE = Acute Toxicity Estimate  
 CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]  
 DNEL = Derived No Effect Level  
 EUH statement = CLP-specific Hazard statement  
 PNEC = Predicted No Effect Concentration  
 RRN = REACH Registration Number

**Full text of abbreviated H statements** : H226 Flammable liquid and vapor.  
 H318 Causes serious eye damage.  
 H335 May cause respiratory irritation.  
 H411 Toxic to aquatic life with long lasting effects.  
 H412 Harmful to aquatic life with long lasting effects.

**Full text of classifications [CLP/GHS]** : Aquatic Chronic 2, H411 AQUATIC HAZARD (LONG-TERM) - Category 2  
 Aquatic Chronic 3, H412 AQUATIC HAZARD (LONG-TERM) - Category 3  
 Eye Dam. 1, H318 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1  
 Flam. Liq. 3, H226 FLAMMABLE LIQUIDS - Category 3  
 STOT SE 3, H335 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) [Respiratory tract irritation] - Category 3

**SECTION 16: Other information**

**Full text of abbreviated R phrases** : R10- Flammable.  
R41- Risk of serious damage to eyes.  
R37- Irritating to respiratory system.  
R51/53- Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
R52/53- Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**Full text of classifications [DSD/DPD]** : Xi - Irritant  
N - Dangerous for the environment

**Date of printing** : 10/29/2014.

**Date of issue/ Date of revision** : 10/28/2014.

**Date of previous issue** : 12/30/2013.

**Version** : 0.06

**Notice to reader**

The information in this SDS is based on the present state of our knowledge and on current laws. The product is not to be used for purposes other than those specified under section 1 without first obtaining written handling instructions. It is always the responsibility of the user to take all necessary steps to fulfill the demands set out in the local rules and legislation. The information in this SDS is meant to be a description of the safety requirements for our product. It is not to be considered a guarantee of the product's properties.

**Annex**