

Crawley's FX37 – Developer A

Material Safety Data Sheet



Date of issue: 08/30/2024 Revision date: N/A Supersedes: N/A Version: 1.0

SECTION 1: Identification

1.1. Identification

Product form : White powder
Substance name : Crawley's FX37 – Developer A
Chemical name : N/A - Mixture
CAS-No : N/A - Mixture
Brand : Flic Film Inc.

1.2. Recommended use and restrictions on use

Use of the substance/mixture : For photographic use only.
Recommended use : Photographic chemicals
Restrictions on use : Not for food, drug or household use

1.3. Supplier

Flic Film Inc.
10B Morrison Road, Longview, Alberta,
Canada T0L 1H0
T +1-403-982-4272

1.4. Emergency telephone number

Emergency number : +1-403-982-4272

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture GHS classification

Based on sodium sulfite – greatest concentration

GHS Classification Not a hazardous substance or mixture.

GHS labelling

Hazard pictograms (GHS) : None required

Signal word (GHS) : None required

Hazard statements (GHS) : None required

Precautionary statements (GHS) : None required

Hazards not otherwise classified (HNOC)

None identified.

2.3. Other hazards which do not result in classification

Other hazards not contributing to the classification : None under normal conditions.

2.4. Unknown acute toxicity (GHS)

Not applicable

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SECTION 3: Composition/Information on ingredients

3.1. Substances

Substance type : Multi-constituent

Name	Product identifier	% -/.
Sodium sulfite	(CAS-No.) 7757-83-7	75-90%
Sodium carbonate	(CAS-No.) 497-19-8	5-10%
Borax	(CAS-No.) 1303-96-4	1-5%
Potassium bromide	(CAS-No.) 7758-02-3	0.5-1%

Full text of hazard classes and H-statements : see section 16

3.2. Mixtures

Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures

- First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice. (show the label where possible). Show this safety data sheet to the doctor in attendance.
- First-aid measures after inhalation : Remove to fresh air. Get medical attention immediately if symptoms occur.
- First-aid measures after skin contact : Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur.
- First-aid measures after eye contact : Rinse immediately with plenty of water, also under eyelids, for at least 15 minutes. Get medical attention.
- First-aid measures after ingestion : Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.

4.2. Most important symptoms and effects (acute and delayed)

- Symptoms/effects : May cause irritation and burns.
- Symptoms/effects after skin contact : May cause skin irritation or burns.
- Symptoms/effects after eye contact : May causes severe eye irritation and redness to the eye lids, conjunctiva. There is potential for permanent and severe eye damage if not treated immediately.
- Symptoms/effects after ingestion : Swallowing a small quantity may cause severe gastrointestinal irritation with nausea, vomiting and diarrhea. Ingestion of large quantities may cause ulceration, vomiting, shock and death.
- Notes physician : Treat symptomatically.

4.3. Immediate medical attention and special treatment, if necessary

Obtain medical assistance.

SECTION 5: Fire-fighting measures

Negligible fire hazard due to non-combustible properties of the mixture.

5.1. Suitable (and unsuitable) extinguishing media

- Suitable extinguishing media : Foam. dry powder. Carbon dioxide. Water spray. Sand.
- Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

Oxides of sodium and potassium. Sulfur dioxide. Bromine. Carbon dioxide. Carbon monoxide.

5.3. Special protective equipment and precautions for fire-fighters

- Firefighting instructions Protection during firefighting : Use water spray or fog for cooling exposed containers.
Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
: Do not enter fire area without proper protective equipment, including respiratory protection.

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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Avoid contact with skin and eyes. Avoid breathing dust. Avoid dust formation. Wash thoroughly after handling. Wear correct personal protective equipment. Ensure adequate ventilation.

6.1.1. For non-emergency personnel

Protective equipment : Safety glasses. Protective clothing. Gloves. Dust mask.
Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.
Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Spills : Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering the area. Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of dust build up. Avoid breathing dust. Avoid contact with skin and eyes. Obtain special instructions before use. Use personal protective equipment as required. Do not handle until all safety precautions have been read and understood.
Hygiene measures : Do not eat, drink or smoke when using this product. Wash exposed skin thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep container closed when not in use. Store in a cool, dry, well-ventilated area.
Incompatible products : Strong acids.
Incompatible materials : Store protected from moisture.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Component	Occupational Exposure Limits
Sodium sulfite	ACGIH TWA 5 mg/m ³ (8 hour).
Sodium carbonate	Not known.
Borax	ACGIH TWA 2 mg/m ³ (8 hour).
Potassium bromide	Not listed.

8.2. Appropriate engineering controls

Appropriate engineering controls : Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation. Material should be handled using local exhaust ventilation (LEV) or laboratory hood whenever possible.

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8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Chemical resistant apron. Gloves. Protective clothing. Safety glasses. Dust mask.



Hand protection:

Wear protective gloves

Eye protection:

Chemical goggles or safety glasses

Respiratory protection:

Wear respiratory protection.

Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid.
Appearance	: Powder / crystalline
Colour	: White/off-white/Cream.
Odour	: Slight sulfurous / acidic smell.
Odour threshold	: No data available.
pH	: No data available.
Melting point	: No data available.
Freezing point	: No data available.
Boiling point	: No data available.
Flash point	: No data available.
Flammability (solid, gas)	: Non flammable.
Vapour pressure	: No data available.
Relative vapour density at 20 °	: No data available.
C Relative density	: No data available.
Specific gravity / density	: No data available.
Molecular mass	: N/A - Mixture.
Solubility	: Soluble in cold water, hot water.
Auto-ignition temperature	: No data available.
Decomposition temperature	: No data available.
Viscosity, kinematic	: No data available.
Viscosity, dynamic	: No data available.
Explosion limits	: No data available.
Explosive properties	: No data available.
Oxidizing properties	: No data available.
Hygroscopic	: No

9.2. Other information

No additional information available

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SECTION 10: Stability and reactivity

10.1. Reactivity

The mixture is stable.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Moisture can also hydrolyze mixture to liberate sulfur dioxide which is a highly irritating and corrosive gas. Adding strong acid to the material can generate sulfur dioxide which is highly irritating and corrosive gas.

10.4. Conditions to avoid

Direct sunlight. Possible emission of gaseous decomposition products may lead to a dangerous pressure build. Exposure to moisture. Elevated temperatures. Store protected from moisture.

10.5. Incompatible materials

Strong acids. Avoid strong acids to prevent generation of highly irritant and corrosive sulfur dioxide gas.

10.6. Hazardous decomposition products

Oxides of sodium and potassium. Sulfur dioxide. Bromine. Carbon dioxide. Carbon monoxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Likely routes of exposure : Inhalation; Skin and eye contact.

Acute toxicity : Oral: Harmful if swallowed.

Toxicological data	
Sodium sulfite	
LD50 Oral	2,610 mg/kg (rat)
LC50 Inhalation	>22 mg/l / 1 h (rat) >5.5 mg/l / 4h (rat)
LD50 Dermal	2,000 mg/kg (rat)
Sodium carbonate	
LD50 Oral	4,090 mg/kg (rat)
LC50 Inhalation	2,300 mg/m ³ (2h) (rat)
LD50 Dermal	2,210 mg/kg (mouse)
Borax	
LD50 Oral	2,660 mg/kg (rat)
LC50 Inhalation	>2 mg/m ³ (rat) 4 h
LD50 Dermal	2000 mg/kg (rabbit)
Potassium bromide	
LD50 Oral	3,070 mg/kg (rat)
LD50 Inhalation	Not listed
LD50 Dermal	Not listed

Skin corrosion/irritation : Causes skin irritation or burns.

Serious eye damage/irritation : Causes serious eye irritation or burns.

Respiratory or skin sensitization : May cause an allergic skin reaction. Sodium sulfite may cause severe or deadly allergic reactions in some asthmatics and sulfite sensitive individuals. Possible signs and symptoms of allergic reactions include bronchoconstriction, sweating, flushing, hives, rapid heart rate, decreased blood pressure and anaphylaxis. Repeated or prolonged contact may cause dermatitis.

Germ cell mutagenicity : Not classified as a mutagen.

Carcinogenicity : Not classified as a carcinogen.

Reproductive toxicity : Not classified

Specific target organ toxicity – single exposure : Not classified

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Specific target organ toxicity – repeated exposure	: Based on available data, the classification criteria are not met. Harmful if swallowed.
Aspiration hazard	: Not classified
Potential Adverse human health effects and symptoms	: The substance or mixture is not classified as specific target organ toxicant. Prolonged or chronic ingestion may cause bromism characterized by disturbances to the central nervous system.
Symptoms/effects after skin contact	: May cause skin irritation and/or dermatitis.
Symptoms/effects after eye contact	: May cause irreversible eye damage.
Symptoms/effects after ingestion	: Central nervous system depression. Diarrhea. Nausea. Vomiting.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - water : Harmful to aquatic life.

12.2. Persistence and degradability

Hypo Clearing Agent	
Persistence and degradability	The material is inorganic and not subject to biodegradation and not to persist in the environment.

12.3. Bioaccumulative potential

Hypo Clearing Agent	
Bioaccumulative potential	This material is believed not to bioaccumulate.

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local / national regulations. Dispose of contents / container to comply with local, state and federal regulations.

Ecology - waste materials : Avoid release to the environment.

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SECTION 14: Transport information

Department of Transportation (DOT) : Not applicable.

In accordance with DOT Transport document description

DOT Special Provisions (49 CFR 172.102) : No special provisions.

DOT Packaging Exceptions (49 CFR 173.xxx) : Not applicable

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : No limit

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : No limit

DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.

Other information : No supplementary information available.

SECTION 15: Regulatory information

Canadian National Regulations

Crawley's FX37

Not listed on the Canadian DSL (Domestic Substances List)

Not listed on the Canadian IDL (Ingredient Disclosure List)

SECTION 16: Other information

Full text of H-phrases: None required

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Material Safety Data Sheet



Date of issue: 08/30/2024 Revision date: N/A Supersedes: N/A Version: 1.0

SECTION 1: Identification

1.1. Identification

Product form : White / off-white / cream powder
Substance name : Crawley's FX37 – Developer B
Chemical name : N/A - Mixture
CAS-No : N/A - Mixture
Brand : Flic Film Inc.

1.2. Recommended use and restrictions on use

Use of the substance/mixture : For photographic use only.
Recommended use : Photographic chemicals
Restrictions on use : Not for food, drug or household use

1.3. Supplier

Flic Film Inc.
10B Morrison Road, Longview, Alberta,
Canada T0L 1H0
T +1-403-982-4272

1.4. Emergency telephone number

Emergency number : +1-403-982-4272

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture GHS classification

Based on hydroquinone – greatest concentration

GHS Classification

Acute oral toxicity : Category 4
Serious Eye Damage / Eye Irritation : Category 1
Skin Sensitization : Category 1
Germ Cell Mutagenicity : Category 2
Carcinogenicity : Category 2
Specific target organ toxicity (single exposure) : Category 3
Target Organs : Respiratory system, Central Nervous System (CNS)
Combustible Dust : Yes

GHS labelling

Hazard pictograms (GHS) :

Signal word (GHS) : Danger
Hazard statements (GHS) : May form combustible dust concentrations in air
Harmful if swallowed
May cause an allergic skin reaction
Cause serious eye damage
May cause respiratory irritation
Suspected of causing genetic defects
Suspected of causing cancer

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Precautionary statements (GHS)	Prevention	: Obtain special instructions before use Do not handle until all safety precautions have been read and understood Use personal protective equipment as required Wash face, hands and any exposed skin thoroughly after handling Do not eat, drink or smoke when using this product Avoid breathing dust/fume/gas /mist/vapors/spray Contaminated work clothing should not be allowed out of the workplace Wear protective gloves Use only outdoors or in a well-ventilated area
	Response	: IF exposed or concerned; Get medical attention
	Inhalation	: IF INHALED: Remove victim to fresh air and keep at rest in apposition comfortable for breathing
	Skin	: IF ON SKIN: Wash with plenty of soap and water If skin irritation or rash occurs: Get medical attention Wash contaminated clothing before reuse
	Eyes	: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing immediately call a POISON CENTER or doctor/physician.
	Ingestion	: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth
	Storage.	: Store locked up Store in a well-ventilated place. Keep container tightly closed
	Disposal	: Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Very toxic to aquatic life

2.3. Other hazards which do not result in classification

Other hazards not contributing to the classification : Hydroquinone can decompose exothermically when mixed with concentrated sodium hydroxide

2.4. Unknown acute toxicity (GHS)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Substance type : Multi-constituent

Name	Product identifier	% -/±
Hydroquinone	(CAS-No.) 123-31-9	85-95%
Phenidone	(CAS-No.) 2654-57-1	5-15%

Full text of hazard classes and H-statements : see section 16

3.2. Mixtures

Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general	: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice. (show the label where possible). Show this safety data sheet to the doctor in attendance.
First-aid measures after inhalation	: Remove to fresh air. Get medical attention immediately if symptoms occur.
First-aid measures after skin contact	: Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur.
First-aid measures after eye contact	: Rinse immediately with plenty of water, also under eyelids, for at least 15 minutes. Get medical attention.
First-aid measures after ingestion	: Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.

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4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects	: May cause irritation and burns.
Symptoms/effects after skin contact	: May cause skin irritation or burns.
Symptoms/effects after eye contact	: May causes severe eye irritation and redness to the eye lids, conjunctiva. There is potential for permanent and severe eye damage if not treated immediately.
Symptoms/effects after ingestion	: Swallowing a small quantity may cause severe gastrointestinal irritation with nausea, vomiting and diarrhea. Ingestion of large quantities may cause ulceration, vomiting, shock and death.
Most important symptoms and effects	: Causes eye burns. May cause allergic skin reaction. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing.
Notes physician	: Treat symptomatically.

4.3. Immediate medical attention and special treatment, if necessary

Obtain medical assistance.

SECTION 5: Fire-fighting measures

Negligible fire hazard due to non-combustible properties of the mixture.

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	: Foam. dry powder. Carbon dioxide. Water spray. Sand. Alcohol resistant foam.
Unsuitable extinguishing media	: None identified.

5.2. Specific hazards arising from the chemical

Carbon dioxide. Carbon monoxide.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions	Protection during firefighting	: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment. Do not enter fire area without proper protective equipment, including respiratory protection.
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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Avoid contact with skin and eyes. Avoid breathing dust. Avoid dust formation. Wash thoroughly after handling. Wear correct personal protective equipment. Ensure adequate ventilation.

6.1.1. For non-emergency personnel

Protective equipment	: Safety glasses. Protective clothing. Gloves. Dust mask.
Emergency procedures	: Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment	: Equip cleanup crew with proper protection.
Emergency procedures	: Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Spills	: Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering the area. Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.
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6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of dust build up. Avoid breathing dust. Avoid contact with skin and eyes. Obtain special instructions before use. Use personal protective equipment as required. Do not handle until all safety precautions have been read and understood.
- Hygiene measures : Do not eat, drink or smoke when using this product. Wash exposed skin thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Keep container closed when not in use. Store in a cool, dry, well-ventilated area.
- Incompatible products : Strong bases. Strong oxidizing agents. Alkaline.
- Incompatible materials : Store protected from moisture.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Component	Occupational Exposure Limits
Hydroquinone	ACGIH TWA 1 mg/m ³ (8 hour).
Phenidone	Not known.

8.2. Appropriate engineering controls

- Appropriate engineering controls : Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation. Material should be handled using local exhaust ventilation (LEV) or laboratory hood whenever possible.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Chemical resistant apron. Gloves. Protective clothing. Safety glasses. Dust mask.



Hand protection:

Wear protective gloves. Nitrile rubber.

Eye protection:

Chemical goggles or safety glasses

Respiratory protection:

Wear respiratory protection.

Other information:

Do not eat, drink or smoke during use.

Crawley's FX37 – Developer B

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid.
Appearance	: Powder / crystalline
Colour	: White/off-white/Cream.
Odour	: Odorless.
Odour threshold	: No data available.
pH	: No data available.
Melting point	: No data available.
Freezing point	: No data available.
Boiling point	: No data available.
Flash point	: No data available.
Flammability (solid, gas)	: Non flammable.
Vapour pressure	: No data available.
Relative vapour density at 20 °	: No data available.
C Relative density	: No data available.
Specific gravity / density	: No data available.
Molecular mass	: N/A - Mixture.
Solubility	: Soluble in cold water, hot water.
Auto-ignition temperature	: No data available.
Decomposition temperature	: No data available.
Viscosity, kinematic	: No data available.
Viscosity, dynamic	: No data available.
Explosion limits	: No data available.
Explosive properties	: No data available.
Oxidizing properties	: No data available.
Hygroscopic	: No

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The mixture is stable.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hydroquinone can decompose exothermically when mixed with concentrated sodium hydroxide

10.4. Conditions to avoid

Direct sunlight. Exposure to moisture. Elevated temperatures. Store protected from moisture.

10.5. Incompatible materials

Strong oxidizing agents. Strong bases. Alkaline. Strong acids.

10.6. Hazardous decomposition products

Carbon dioxide. Carbon monoxide

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SECTION 11: Toxicological information

11.1. Information on toxicological effects

Likely routes of exposure : Inhalation; Skin and eye contact.
Acute toxicity : Oral: Harmful if swallowed.

Toxicological data	
Hydroquinone	
LD50 Oral	298 mg/kg (rat)
LC50 Inhalation	Not listed
LD50 Dermal	74,800 mg/kg (rabbit)
Phenidone	
LD50 Oral	2,000 mg/kg (rat)
LC50 Inhalation	Not listed
LD50 Dermal	Not listed

Skin corrosion/irritation : Causes skin irritation or burns.

Serious eye damage/irritation : Severe eye irritant.

Respiratory or skin sensitization : May cause sensitization by skin contact.

Germ cell mutagenicity : Mutagenic category 2

Carcinogenicity : Not classified as a carcinogen except as an animal carcinogen in testing in Mexico

Reproductive toxicity : Experiments have shown reproductive toxicity effects on laboratory animals

Teratogenicity : No information available

Specific target organ toxicity – single exposure : respiratory system, Central Nervous System (CNS).

Specific target organ toxicity – repeated exposure : None known

Aspiration hazard : No information available

Symptoms effects, both acute and delayed : Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing

SECTION 12: Ecological information

12.1. Toxicity

Ecology - water : Very toxic to aquatic life.

12.2. Persistence and degradability

Hypo Clearing Agent	
Persistence and degradability	Soluble in water. Persistence is unlikely based on information available.

12.3. Bioaccumulative potential

Hypo Clearing Agent	
Bioaccumulative potential	No information available.

12.4. Mobility in soil

Will likely be mobile in the environment due to its water solubility.

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12.5. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local / national regulations. Dispose of contents / container to comply with local, state and federal regulations.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

Department of Transportation (DOT) : Not applicable.

In accordance with DOT Transport document description

DOT Special Provisions (49 CFR 172.102) : No special provisions.

DOT Packaging Exceptions (49 CFR 173.xxx) : Not applicable

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : No limit

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : No limit

DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.

Other information : No supplementary information available.

SECTION 15: Regulatory information

Canadian National Regulations

Crawley's FX37 – Developer B

Not listed on the Canadian DSL (Domestic Substances List)

Not listed on the Canadian IDL (Ingredient Disclosure List)

SECTION 16: Other information

Full text of H-phrases:

- May form combustible dust concentrations in air
- Harmful if swallowed
- May cause an allergic skin reaction
- Cause serious eye damage
- May cause respiratory irritation
- Suspected of causing genetic defects
- Suspected of causing cancer

Crawley's FX37 – Developer C

Material Safety Data Sheet



Date of issue: 08/31/2024 Revision date: N/A Supersedes: N/A Version: 1.0

SECTION 1: Identification

1.1. Identification

Product form : White solid
Substance name : Crawley's FX37 – Developer C
Chemical name : Benzotriazole / 1,2,3-Benzotriazole / 1,2-Aminozophenylene / 1H-Benzotrazole
CAS-No : 95-14-7
Brand : Flic Film Inc.

1.2. Recommended use and restrictions on use

Use of the substance/mixture : For photographic use only.
Recommended use : Photographic chemicals
Restrictions on use : Not for food, drug or household use

1.3. Supplier

Flic Film Inc.
10B Morrison Road, Longview, Alberta,
Canada T0L 1H0
T +1-403-982-4272

1.4. Emergency telephone number

Emergency number : +1-403-982-4272

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture GHS classification

GHS Classification

Acute oral toxicity : Category 4
Serious Eye Damage / Eye Irritation : Category 2

GHS labelling

Hazard pictograms (GHS) : 

Signal word (GHS) : Warning
Hazard statements (GHS) : Harmful if swallowed
Cause serious eye irritation

Precautionary statements (GHS) Prevention : Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Wear eye/face protection
Eyes : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing immediately call a POISON CENTER or doctor/physician.
Ingestion : IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
Disposal : Dispose of contents/container to an approved waste disposal plant
Rinse mouth

Hazards not otherwise classified (HNOC)

Toxic to aquatic life with long lasting effects

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2.3. Other hazards which do not result in classification

Other hazards not contributing to the classification : Contains a known or suspected endocrine disruptor

2.4. Unknown acute toxicity (GHS)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Substance type : 1,2,3-Benzotriazole

Name	Product identifier	% w/w
1,2,3-Benzotriazole	(CAS-No.) 95-14-7	98+%

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

General advice : If symptoms persist, call a physician

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice. (show the label where possible). Show this safety data sheet to the doctor in attendance.

First-aid measures after inhalation : Remove to fresh air. If breathing is difficult, give oxygen. Get medical attention.

First-aid measures after skin contact : Wash off immediately with plenty of water for at least 15 minutes. Get medical attention.

First-aid measures after eye contact : Rinse immediately with plenty of water, also under eyelids, for at least 15 minutes. Get medical attention.

First-aid measures after ingestion : Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects : May cause irritation and burns.

Symptoms/effects after skin contact : May cause skin irritation or burns.

Symptoms/effects after eye contact : May causes severe eye irritation and redness to the eye lids, conjunctiva. There is potential for permanent and severe eye damage if not treated immediately.

Symptoms/effects after ingestion : Swallowing a small quantity may cause severe gastrointestinal irritation with nausea, vomiting and diarrhea. Ingestion of large quantities may cause ulceration, vomiting, shock and death.

Most important symptoms and effects : Causes eye burns. May cause allergic skin reaction. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing.

Notes physician : Treat symptomatically.

4.3. Immediate medical attention and special treatment, if necessary

Obtain medical assistance.

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SECTION 5: Fire-fighting measures

Unlikely to be a significant fire hazard.

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Foam, dry powder, Carbon dioxide, Water spray, Sand, Alcohol resistant foam.

Unsuitable extinguishing media : None identified.

5.2. Specific hazards arising from the chemical

Carbon dioxide, Carbon monoxide, Oxides of nitrogen. Keep product and empty container away from heat or sources of ignition.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions Protection during firefighting : Use water spray or fog for cooling exposed containers.
Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
: Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Avoid contact with skin and eyes. Avoid breathing vapor. Avoid vapor formation. Wash thoroughly after handling. Wear correct personal protective equipment. Ensure adequate ventilation.

6.1.1. For non-emergency personnel

Protective equipment : Safety glasses, Protective clothing, Gloves, Dust mask.
Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.
Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Spills : Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering the area. Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor build up. Avoid breathing vapor. Avoid contact with skin and eyes. Obtain special instructions before use. Use personal protective equipment as required. Do not handle until all safety precautions have been read and understood.
- Hygiene measures : Do not eat, drink or smoke when using this product. Wash exposed skin thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Keep container closed when not in use. Store in a cool, dry, well-ventilated area.
- Incompatible products : None known. However, a 1-ton batch pure benzotriazole has decomposed exothermically and then detonated at 220°C during distillation.
- Incompatible materials : Store protected from moisture.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Component	Occupational Exposure Limits
1,2,3-Benzotriazole	Not listed

8.2. Appropriate engineering controls

- Appropriate engineering controls : Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation. Material should be handled using local exhaust ventilation (LEV) or laboratory hood whenever possible.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Chemical resistant apron. Gloves. Protective clothing. Safety glasses. Dust mask.



Hand protection:

Wear protective gloves.

Eye protection:

Chemical goggles or safety glasses

Respiratory protection:

Wear respiratory protection.

Other information:

Do not eat, drink or smoke during use.

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid.
Appearance	: Beige
Odour	: Odorless.
Odour threshold	: No data available.
pH	: No data available.
Melting point	: No data available.
Freezing point	: No data available.
Boiling point	: No data available.
Flash point	: No data available.
Flammability (solid, gas)	: Non flammable.
Vapour pressure	: No data available.
Relative vapour density at 20 °	: No data available.
C Relative density	: No data available.
Specific gravity / density	: No data available.
Molecular formula	: C ₆ H ₅ N ₃
Molecular mass	: 119.13
Solubility	: Insoluble in water.
Auto-ignition temperature	: No data available.
Decomposition temperature	: No data available.
Viscosity, kinematic	: No data available.
Viscosity, dynamic	: No data available.
Explosion limits	: No data available.
Explosive properties	: No data available.
Oxidizing properties	: No data available.
Hygroscopic	: No

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

None known, based upon information available.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

None identified. However, a 1-ton batch pure benzotriazole has decomposed exothermically and then detonated at 220°C during distillation.

10.4. Conditions to avoid

Direct sunlight. Exposure to moisture. Elevated temperatures. Store protected from moisture.

10.5. Incompatible materials

Strong oxidizing agents.

10.6. Hazardous decomposition products

Carbon dioxide. Carbon monoxide. Oxides of nitrogen.

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SECTION 11: Toxicological information

11.1. Information on toxicological effects

Likely routes of exposure : Inhalation; Skin and eye contact.
Acute toxicity : Oral: Harmful if swallowed. Causes serious eye irritation.

Toxicological data	
1,2,3-Benzotriazole	
LD50 Oral	560 mg/kg (rat)
LC50 Inhalation	Not listed
LD50 Dermal	10,000 mg/kg (rabbit)

Skin corrosion/irritation : Causes severe eye irritation.

Serious eye damage/irritation : Severe eye irritant.

Respiratory or skin sensitization : No information available.

Germ cell mutagenicity : No information available.

Carcinogenicity : Not classified as a carcinogen.

Reproductive toxicity : No information available.

Teratogenicity : No information available.

Specific target organ toxicity – single exposure : No information available.

Specific target organ toxicity – repeated exposure : None known

Aspiration hazard : No information available

Symptoms effects, both acute and delayed : The toxicological properties have not been fully investigated.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - water : Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

12.2. Persistence and degradability

Hypo Clearing Agent	
Persistence and degradability	Insoluble in water. May persist on information available.

12.3. Bioaccumulative potential

Hypo Clearing Agent	
Bioaccumulative potential	No information available.

12.4. Mobility in soil

Is not likely mobile in the environment due to its low water solubility.

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12.5. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local / national regulations. Dispose of contents / container to comply with local, state and federal regulations.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

Department of Transportation (DOT) : Not applicable.

In accordance with DOT Transport document description

DOT Special Provisions (49 CFR 172.102) : No special provisions.

DOT Packaging Exceptions (49 CFR 173.xxx) : Not applicable

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : No limit

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : No limit

DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.

Other information : No supplementary information available.

SECTION 15: Regulatory information

Canadian National Regulations

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Not listed on the Canadian DSL (Domestic Substances List)

Not listed on the Canadian IDL (Ingredient Disclosure List)

SECTION 16: Other information

Full text of H-phrases: Harmful if swallowed
Cause serious eye irritation