

24 hour transportation emergency telephone number: Chemtrec 800-424-9300

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Identity: **DF4 Developer**

Producer/Distributor: Jay House, Unit 6b, Park Lane industrial Estate, Corsham, Wiltshire, SN13 9LG, U.K. Tel: +44 (0)1249 714555

2. COMPOSITION / INGREDIENT INFORMATION

This is an aqueous, alkaline solution of organic and inorganic compounds, normally diluted 1 + 4 with water to make working solution. The main ingredients are:

Chemical Name and %w/w

Symbol letter		R-Phrases	S-Phrases	EINEC No	CAS No
HYDROQUINONE	3%	22-43	2-24/25-37/39	204-617-8	123-31-9
	Xi				
PHENIDONE	<1%	(1-Phenyl-3-Pyrazolidone)		202-155-1	92-43-3
SODIUM HYDROXIDE	<1%				
	Xi	36/38	2-26-37.39	215-185-5	1310-73-2
POTASSIUM SULPHITE	<20%	-	-	-	10117-38-1
POTASSIUM CARBONATE	<10%	-	-	-	63871-79-9

3. HAZARD IDENTIFICATION

EC classification:

See paragraph 15

Most important hazards:

4. FIRST AID MEASURES

Inhalation: Move the victim to fresh air. Put person in half sitting position and let rest. In extreme cases seek medical advice.

Skin contact: Flush with plenty of water. Remove contaminated clothing.

Eye contact: Rinse eyes thoroughly with water until irritation stops. In all cases seek medical advice.

Ingestion. Rinse mouth with plenty of water. Give victim considerable amounts of water to drink, do not give anything to drink to an unconscious person. In extreme cases seek medical advice.

Other: Allergic skin reaction may develop if exposed often and for long periods of time.

Advice to physician:

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Only use extinguishing media which are compatible with the surrounding materials.

Water, watersprayer, Carbon dioxide, dry powder, foam, sand

Unsuitable extinguishing media: All extinguishing media are allowed.

Special exposure hazards: When product is involved in a fire, Toxic fumes and smoke may be generated. Do not breathe these fumes

Hazardous decomposition/combustion products: Formation of CO₂, CO, SO₂ fumes is possible.

Protective equipment: Use approved positive pressure self-contained breathing apparatus when product is involved in a fire.

Further instructions: Contaminated extinguishing water should be disposed of in a manner approved by the EEC, national and local regulatory agencies.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Wear personal protective clothing. (See paragraph 8). When vapours, aerosols or mists are formed, wear suitable respiratory protection.

Environmental precautions: In case of an accident, avoid release of product into the environment. Prevent product getting into sewerage systems or public waterways. Try to collect as much as possible in an approved container for later disposal.

Methods for cleaning up: Action may only be taken when fully protected, Contain the area of spillage. Stop the source of leak. Large amounts should be pumped into a container. Small amounts can be collected with absorbing materials. Small remaining leftovers may be washed away with large amounts of water.

7. HANDLING AND STORAGE

Handling: Working areas and methods should be organised in such a way that direct contact is avoided. Wear protective clothing. Emergency shower and eye rinse facilities must be accessible. When handling chemicals, do not eat, drink or smoke.

Fire and explosion prevention: This preparation contains a lot of water and does not show any flammable or explosive properties, No special fire and explosion prevention procedures are necessary.

Storage requirements: Store in a dry cool, well ventilated place away from all sources of ignition and heating. Keep the package closed if not in use.

Other information: Always store in the original container, Do not use the empty contaminated container for any other purposes.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls: Ensure good ventilation and local exhaustion of the working area.

Exposure limits:

Personal protection:

Inhalation: Normally a local ventilation is sufficient to keep airborne concentration of chemicals at a low level. No special breathing protection is necessary.

Skin contact: Wear impervious gloves.

Eye contact: Wear close fitting safety goggles.

Ingestion: When handling chemicals do not eat, drink or smoke.

Other information: Always follow the mixing instructions strictly when water or other solutions have to be added to the preparation. Avoid breathing mist or vapour. Avoid contact with eyes and skin. Handle with care.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Liquid
Colour	Colourless
Odour	Odourless
Boiling point/range	> 100 deg C
Melting point/range	Not relevant
Flash point	Not relevant
Flammability	Not relevant
Autoignition temperature	Not relevant
Explosive limits lower	Not relevant
Oxidising properties	Not determined
Vapour pressure (20 deg C)	Not determined
Density (20 deg C)	1.22
Solubility in water (25 deg C)	Completely
Solubility in other solvents (25 deg C)	Not determined
pH value (25 deg C)	10.8
pH solution in water	Not determined

Partition coefficient n-octanol/water	Not determined
Viscosity	As water
Other information	-

10. STABILITY AND REACTIVITY

Stability: The product is stable under normal storage conditions.

Conditions to avoid: The preparation is an alkaline solution of reducing agents, do not mix with acids as Carbon dioxide and Sulphur dioxide will be liberated.

Materials to avoid: Corrosive to some metals.

Hazardous decomposition products: Only when the product is involved in a fire, or when it is handled incorrectly, is there a possibility that decomposition products will be generated. (See paragraph 5)

11. TOXICOLOGICAL INFORMATION

Acute toxicity:

HYDROQUINONE	LD50 (Oral Rat) = 320mg/kg
PHENIDONE	LD50 (Oral Rat) = 200mg/kg
SODIUM SULPHITE	LD50 (Oral rat) – 2524mg/kg
POTASSIUM CARBONATE	LD50 (Oral Rat) = 1870mg/kg

Different routes of exposure, health warnings

Inhalation: Avoid breathing mist, vapour or aerosols. Ventilate as required to keep concentrations low.

Skin contact: Avoid contact with skin. May cause allergic reaction with prolonged contact.

Eye contact: Can cause irritation.

Ingestion: No specific exposure limits determined for the preparation. None of the ingredients shows a very high risk when ingested.

Other information:

12. ECOLOGICAL INFORMATION

Information about elimination

Information about environmental compartments:

Ecotoxicity:

HYDROQUINONE	LC50 (96 hours)	=0.1mg/l
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Other information:

13. DISPOSAL CONSIDERATIONS

Product or contaminated product: Dispose of leftovers, waste or contaminated products in accordance with local and national regulations.

Contaminated package: Contaminated package should be disposed of in accordance with local and national regulations.

Other information: We recommend the separation of any waste resulting from this product. IUt can be dangerous when different photographic products are mixed together.

14. TRANSPORT INFORMATION

UN No:

Description: NON HAZARDOUS LIQUID

Containing

ADR/RID	Class:	Item:	TREMCARD:
IMDG/ADNR	Class:	Page:	EmS
	Pack.gr		
ICAO/IATA	Class:	Pass<	Instr:
	Pack.gr:	Cargoi<:	Instr.

15. REGULATORY INFORMATION

Chemical identity: CONTAINS HYDROQUINONE

Warning sign EC:

Symbol(s): Xi

R(isk) phrase(s)

R22	Harmful if swallowed
R36/38	Irritating to skin and eyes.
R43	May cause sensitization by skin contact.

S(afety) phrase(s)

S2	Keep out of reach of children
S24/25	Avoid contact with skin and eyes
S26	In case of contactg with eyes, rinse immediately with plenty of water and seek medical advice
S37/39	Wear suitable gloves and eye face protection

Exposure limits:

Other information:

16. OTHER INFORMATION

The above mentioned information corresponds to our present knowledge and therefore does not guarantee certain properties. The safety data sheet serves as a description of the product in regards to necessary safety measures, Recipients of our product must take responsibility for observing existing laws and regulations.

1. CHEMICAL PRODUCT AND COMPANY INFORMATION**Product Identity :** **DF4 Fixer****Producer / Distributor :** Jay House Ltd, Unit 6b, Park Lane Industrial Estate, Corsham, Wiltshire, SN13 9LG, England
Tel: +44 (0)1249 714555**2. COMPOSITION / INGREDIENT INFORMATION**

This is a liquid preparation of inorganic and organic compounds dissolved in water. The main ingredients are :

Chemical Name and Symbol letter	%w/w	R-Phrases	S-Phrases	EINEC No	CASNo
AMMONIUM THIOSULPHATE	<60 %	-	-	7783-18-8	
SODIUM SULPHITE	<5 %	-	-	7757-83-7	
ACETIC ACID	<1 %	-	200-580-7	64-19-7	

3. HAZARD IDENTIFICATION**EC classification :**

See paragraph 15

Most important hazards :**4. FIRST AID MEASURES****Inhalation :** Move the victim to fresh air. Put person in half sitting position and let rest. In extreme cases seek medical advice.**Skin contact :** Flush with plenty of water. Remove contaminated clothing.**Eye contact :** Rinse eyes thoroughly with water until irritation stops. In all cases seek medical advice.**Ingestion :** -**Other :** No typical symptoms and effects known.**Advice to physician :****5. FIRE-FIGHTING MEASURES****Suitable extinguishing media** Only use extinguishing media which are compatible with the surrounding materials

Water, waterspray, Carbon dioxide, dry powder, foam, sand.

Unsuitable extinguishing media : All extinguishing media are allowed.

Special exposure hazards : When product is involved in a fire, toxic fumes and smoke will be generated. Do not breathe these fumes

Hazardous decomposition/combustion products :Formation of CO₂, CO, SO₂, Ammonia, is possible.

Protective equipment : Use approved positive pressure self-contained breathing apparatus when product is involved in a fire.

Further instructions : Contaminated extinguishing water should be disposed of in a manner approved by the EEC, national and local regulatory agencies.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions :Wear personal protective clothing. (See paragraph 8).

When vapours, aerosols or mists are formed, wear suitable respiratory protection.

Environmental precautions : In case of an accident, avoid release of product into the environment. Prevent product getting into sewerage systems or public waterways. Try to collect as much as possible in an approved container for later disposal

Methods for cleaning up :Action may only be taken when fully protected. Contain the area of spillage. Stop the source of leak. Large amounts should be pumped into a container. Small amounts can be collected with absorbing materials. Small remaining leftovers may be washed away with large amounts of water

7. HANDLING AND STORAGE

Handling : Working areas and methods should be organised in such a way that direct contact is avoided.Wear protective clothing. Emergency shower and eye rinse facilities must be accessible. When handling chemicals, do not eat, drink or smoke.

Fire and explosion prevention :This preparation contains a lot of water and does not show any flammable or explosive properties. No special fire and explosion prevention procedures are necessary.

Storage requirements : Store in a dry cool, well ventilated place away from all sources of ignition and heating. Keep the package closed if not in use

Other information : Always store in the original container. Do not use the empty contaminated container for any other purposes

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering controls : Ensure good ventilation and local exhaustion of the working area.

Exposure limits :

Personal protection :

Inhalation : Normally a local ventilation is sufficient to keep airborne concentration of chemicals at a low level. No special breathing protection is necessary

Skin contact : Wear impervious gloves.

Eye contact : Wear close fitting safety goggles.

Ingestion : When handling chemicals do not eat, drink or smoke.

Other information : Always follow the mixing instructions strictly when water or other solutions have to be added to the preparation. Avoid breathing mist or vapour. Avoid contact with eyes and skin. Handle with care.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: Liquid
Colour	: Colourless
Odour	: Slight, vinegar.
Boiling point/range	: Not determined
Melting point/range	: Not relevant
Flash point	: Not relevant
Flammability	: Not relevant
Autoignition temperature	: Not relevant
Explosive limits lower	: Not relevant
Oxidising properties	: Not determined
Vapour pressure (20deg C)	: Not determined
Density (20deg C)	: 1.3
Solubility in water (25deg C)	: Completely
Solubility in other solvents (25deg C)	: Not determined
pH value (25deg C)	: 5.1
pH solution in water	: Not determined
Partition coefficient n-octanol/water	: Not determined
Viscosity	: As water
Other information	: -

10. STABILITY AND REACTIVITY

Stability : The product is stable under normal storage conditions

Conditions to avoid : Mildly acidic solution. Liberates sulphur dioxide on contact with strong acids. Liberates ammonia on contact with strong alkalies.

Materials to avoid : Corrosive to various metals.

Hazardous decomposition products Only when the product is involved in a fire, or when it is handled incorrectly, is there a possibility that decomposition products will be generated. (See paragraph 5)

11. TOXICOLOGICAL INFORMATION**Acute toxicity :**

AMMONIUM THIOSULPHATE	LD50 (Oral Rat)	= 2890mg/kg
SODIUM SULPHITE	LD50 (Oral Rat)	= 2525mg/kg
ACETIC ACID	LD50 (Oral Rat)	= 3310mg/kg

Different routes of exposure, health warnings

Inhalation : Avoid breathing mist, vapour or aerosols. Ventilate as required to keep concentrations low.

Skin contact : Avoid contact with skin.

Eye contact : Can cause irritation.

Ingestion : No specific exposure limits determined for this preparation. None of the ingredients shows a high risk when ingested

Other information :

Experience with humans :

12. ECOLOGICAL INFORMATION

Information about elimination

Information about environmental compartments :

Ecotoxicity :

Other information :

13. DISPOSAL CONSIDERATIONS

Product or contaminated product Dispose of leftovers, waste or contaminated products in accordance with local and national regulations.

Contaminated package : Contaminated package should be disposed of in accordance with local and national regulations.

Other information : We recommend the separation of any waste resulting from this product. It can be dangerous when different photographic products are mixed together

14. TRANSPORT INFORMATION

UN No. :-

Description : NON HAZARDOUS

Containing :-

ADR/RID Class :-

Item :-

TREMCARD: -

IMDG/ADNR Class :-

Page :-

EmS :-

Pack.gr: -

MFAG :

ICAO/IATA Class :-

Pass< :-

Instr. :-

Pack.gr: -

Cargo<: -

Instr. :-

15. REGULATORY INFORMATION

Chemical identity : -

Warning sign EC : -

Symbol(s) : -

R(isk) phrase(s) :

-

S(afety) phrase(s) :

-

Exposure limits :-

Other information :-

16. OTHER INFORMATION

The above mentioned information corresponds to our present knowledge and therefore does not guarantee certain properties. The safety data sheet serves as a description of the product in regards to necessary safety measures. Recipients of our product must take responsibility for observing existing laws and regulations.

