5-FLUOROURACIL

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME
FLUOROURACIL

OTHER NAMES

C4-H3-F-N2-O2, 5-fluorouracil, 5-fluorouracil, "5-fluoro-2, 4-dihydroxypyrimidine", "5 -fluoro-2, 4-dihydroxypyrimidine", "5-fluoropyrimidine-2, 4-dione", "5-fluoropyrimidine-2 , 4-dione", "5-fluoro-2, 4(1H, 3H)-pyrimidinedione", "5-fluoro-2, 4(1H, 3H) -pyrimidinedione", "5-fluor-2, 4-pyrimidindiol", "5-fluor-2, 4-pyrimidindiol", 5 -fluouracil, 5-fluouracil,

PROPER SHIPPING NAME
MEDICINE, SOLID, TOXIC, N.O.S.

PRODUCT USE
Pyrimidine analogue used as an antineoplastic agent. Acts as an antimetabolite to uracil. Following intracellular conversion to th active deoxynucleotide it interferes with the synthesis of DNA by blocking the conversion of deoxyuridylic acid to thymidylic acid. Also interferes with RNA synthesis. Used in the palliation of inoperable malignant neoplasms, especially of the gastrointestinal tract, breast, liver and pancreas.
Normally given by intravenous injection. Therapeutic doses are close to toxic levels and fatalities have occurred.
Used topically in the treatment of solar or actinic keratoses and other tumours of the skin usually as a 5% cream or ointment.
Anti-tumour, anti-proliferative; inhibits aminoisobutyrate-pyruvate aminotransferase.

SUPPLIER
Company: S D FINE- CHEM LIMITED
Address:
315- 317, T.V. INDUSTRIAL ESTATE,
248, WORLI,
MUMBAI- 400030.INDIA.
technical@sdfine.com
Telephone: 91- 22- 24959898
Telephone: 91- 22- 24959899
Fax: 91- 22- 24937232

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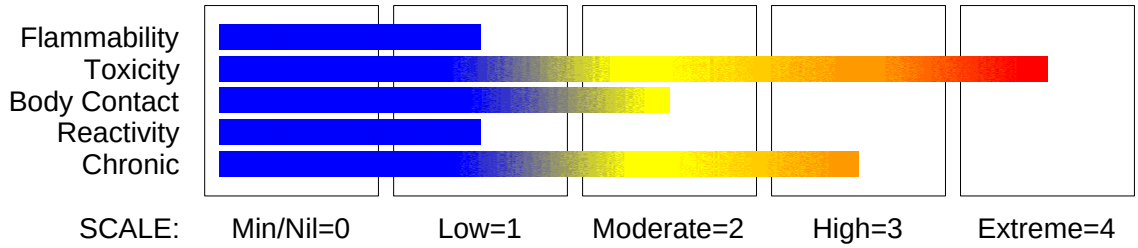
HAZARD RATINGS



Section 2 - HAZARDS IDENTIFICATION

GHS Classification

Acute Toxicity (Oral) Category 2
Reproductive Toxicity Category 1B
Skin Corrosion/Irritation Category 3
Skin Sensitizer Category 1

EMERGENCY OVERVIEW

HAZARD

DANGER
Determined by using GHS criteria:
H300 H316 H317 H360
Fatal if swallowed
Causes mild skin irritation
May cause allergic skin reaction
May damage the unborn child

PRECAUTIONARY STATEMENTS

Prevention

Contaminated clothing should not be allowed out of the workplace.
Avoid breathing dust/fume/gas/mist/vapours/spray.
Obtain special instructions before use.
Use personal protective equipment as required.
Do not handle until all safety precautions have been read and understood.
Wash hands thoroughly after handling.
Do not eat, drink or smoke when using this product.

Response

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
If skin irritation or rash occurs, seek medical advice/attention.

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If exposed or concerned: Get medical attention advice.
Specific treatment: refer to Label or MSDS.
IF ON SKIN: Gently wash with plenty of soap and water.
If skin irritation occurs, seek medical advice/attention.
Wash contaminated clothing before reuse.

Storage

Store locked up.

Disposal

Dispose of contents and container in accordance with relevant legislation.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
fluorouracil	51-21-8	>98

Section 4 - FIRST AID MEASURES

SWALLOWED

For advice, contact a Poisons Information Centre or a doctor.
Poison Information Centres in each State capital city can provide additional assistance.

EYE

If this product comes in contact with the eyes:
· Immediately hold eyelids apart and flush the eye continuously with running water.
· Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
· Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.
· Transport to hospital or doctor without delay.
· Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

SKIN

If skin contact occurs:
· Immediately remove all contaminated clothing, including footwear.
· Flush skin and hair with running water (and soap if available).
· Seek medical attention in event of irritation.

INHALED

· If dust is inhaled, remove from contaminated area.
· Encourage patient to blow nose to ensure clear passage of breathing.
· If irritation or discomfort persists seek medical attention.

NOTES TO PHYSICIAN

Treat symptomatically.
Absorption from the gastrointestinal tract unpredictable. Up to 20% of a dose applied to diseased skin may be excreted in the urine over 24 hours. About 15% of an intravenous dose is excreted unchanged in the urine within 6 hours. The remainder is inactivated in the liver and is catabolised to endogenous uracil. Large amounts are excreted as respiratory CO2.

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Section 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA
· Water spray or fog.
· Foam.
· Dry chemical powder.
· BCF (where regulations permit).
· Carbon dioxide.

FIRE FIGHTING
· Alert Fire Brigade and tell them location and nature of hazard.
· Wear breathing apparatus plus protective gloves for fire only.
· Prevent, by any means available, spillage from entering drains or water courses.
· Use fire fighting procedures suitable for surrounding area.
· DO NOT approach containers suspected to be hot.
· Cool fire exposed containers with water spray from a protected location.
· If safe to do so, remove containers from path of fire.
· Equipment should be thoroughly decontaminated after use.

FIRE/EXPLOSION HAZARD
· Solid which exhibits difficult combustion or is difficult to ignite.
· Avoid generating dust, particularly clouds of dust in a confined or unventilated space as dusts may form an explosive mixture with air, and any source of ignition, i.e. flame or spark, will cause fire or explosion. Dust clouds generated by the fine grinding of the solid are a particular hazard; accumulations of fine dust may burn rapidly and fiercely if ignited.
· Dry dust can also be charged electrostatically by turbulence, pneumatic transport, pouring, in exhaust ducts and during transport.
· Build-up of electrostatic charge may be prevented by bonding and grounding.
· Powder handling equipment such as dust collectors, dryers and mills may require additional protection measures such as explosion venting.
· All movable parts coming in contact with this material should have a speed of less than 1-metre/sec.
Combustion products include: nitrogen oxides (NOx) and hydrogen fluoride.

FIRE INCOMPATIBILITY
Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result.

Personal Protective Equipment
Breathing apparatus.
Gas tight chemical resistant suit.
Limit exposure duration to 1 BA set 30 mins.

Section 6 - ACCIDENTAL RELEASE MEASURES

EMERGENCY PROCEDURES

continued...

MINOR SPILLS
- Remove all ignition sources.
- Clean up all spills immediately.
- Avoid contact with skin and eyes.
- Control personal contact by using protective equipment.
- Use dry clean up procedures and avoid generating dust.
- Place in a suitable labelled container for waste disposal.

MAJOR SPILLS
- Clean up all spills immediately.
- Wear protective clothing, safety glasses, dust mask, gloves.
- Secure load if safe to do so. Bundle/collect recoverable product.
- Use dry clean up procedures and avoid generating dust.
- Vacuum up (consider explosion-proof machines designed to be grounded during storage and use).
- Water may be used to prevent dusting.
- Collect remaining material in containers with covers for disposal.
- Flush spill area with water.

EMERGENCY RESPONSE PLANNING GUIDELINES (ERPG)

The maximum airborne concentration below which it is believed that nearly all individuals could be exposed for up to one hour WITHOUT experiencing or developing

life-threatening health effects is:
fluorouracil 100 mg/m³

irreversible or other serious effects or symptoms which could impair an individual's ability to take protective action is:
fluorouracil 19 mg/m³

other than mild, transient adverse effects without perceiving a clearly defined odour is:
fluorouracil 2.5 mg/m³

The threshold concentration below which most people will experience no appreciable risk of health effects:
fluorouracil 0.75 mg/m³

American Industrial Hygiene Association (AIHA)

Ingredients considered according to the following cutoffs

Very Toxic (T+)	>= 0.1%	Toxic (T)	>= 3.0%
R50	>= 0.25%	Corrosive (C)	>= 5.0%
R51	>= 2.5%		
else	>= 10%		

where percentage is percentage of ingredient found in the mixture

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SAFE STORAGE WITH OTHER CLASSIFIED CHEMICALS

X	X	+	X	X	+

+: May be stored together
O: May be stored together with specific preventions

continued...

X: Must not be stored together

Personal Protective Equipment advice is contained in Section 8 of the MSDS.

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

- Avoid generating and breathing dust
- Avoid contact with skin and eyes.
- Wear nominated personal protective equipment when handling.
- Use in a well-ventilated area.
- Use good occupational work practices.
- Observe manufacturer's storing and handling recommendations.

SUITABLE CONTAINER

Packaging as recommended by manufacturer.
- Check that containers are clearly labelled.

STORAGE INCOMPATIBILITY

Avoid reaction with oxidising agents.

STORAGE REQUIREMENTS

- Store in original containers.
- Keep containers securely sealed.
- Store in a cool, dry, well-ventilated area.
- Store away from incompatible materials and foodstuff containers.
- Protect containers against physical damage and check regularly for leaks.
- Observe manufacturer's storing and handling recommendations.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

The following materials had no OELs on our records

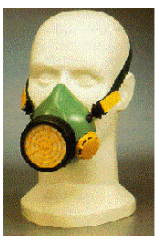
• fluorouracil: CAS:51- 21- 8 CAS:79108- 01- 3 CAS:4921- 97- 5 CAS:1004- 03- 1

MATERIAL DATA

CEL TWA: 0.001 mg/m3.

PERSONAL PROTECTION



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EYE
No special equipment needed when handling small quantities of substance.
For bulk handling wear:
Chemical goggles or
Face shield.

HANDS/FEET
Rubber gloves
PVC gloves
Protective shoe covers
Head covering.

OTHER
No special equipment when handling small quantities of substance otherwise:
Coveralls
For Emergencies:
Vinyl suit
Safety shower

RESPIRATOR
High Efficiency Dust Respirator (P2, P3)
For non-routine emergencies wear full face mask self-contained breathing apparatus.

RESPIRATOR

Protection Factor	Half- Face Respirator	Full- Face Respirator	Powered Air Respirator
10 x ES	P1 Air- line*	- -	PAPR- P1 -
50 x ES	Air- line**	P2	PAPR- P2
100 x ES	-	P3	-
		Air- line*	-
100+ x ES	-	Air- line**	PAPR- P3

* - Negative pressure demand ** - Continuous flow.

The local concentration of material, quantity and conditions of use determine the type of personal protective equipment required.
For further information consult
your
Occupational Health and Safety Advisor.

ENGINEERING CONTROLS
Enclosed local exhaust ventilation is required at points of dust, fume or vapour generation.
HEPA terminated local exhaust ventilation should be considered at point of generation of dust, fumes or vapours.
Barrier protection or laminar flow cabinets should be considered for laboratory scale handling.
When handling quantities up to 500 kilogram,work in either a standard laboratory with general dilution ventilation (e.g. 6-12 air changes per hour) is preferred. Quantities up to 1 kilogram may require a designated laboratory using fume hood, biological safety cabinet, or approved vented enclosures. Quantities exceeding 1 kilogram should be handled in a designated laboratory or containment laboratory using appropriate barrier/ containment technology.
Manufacturing and pilot plant operations require barrier/ containment and direct coupling technologies.

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Barrier/ containment technology and direct coupling (totally enclosed processes that create a barrier between the equipment and the room) typically use double or split butterfly valves and hybrid unidirectional airflow/ local exhaust ventilation solutions (e.g. powder containment booths). Glove bags, isolator glove box systems are optional. HEPA filtration of exhaust from dry product handling areas is required.
Fume-hoods and other open-face containment devices are acceptable when face velocities of at least 1 m/s (200 feet/minute) are achieved. Partitions, barriers, and other partial containment technologies are required to prevent migration of the material to uncontrolled areas. For non-routine emergencies maximum local and general exhaust are necessary. Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.

Type of Contaminant:	Air Speed:
solvent, vapours, etc. evaporating from tank (in still air)	0.25- 0.5 m/s (50- 100 f/min.)
aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers (released at low velocity into zone of active generation)	0.5- 1 m/s (100- 200 f/min.)
direct spray, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)	1- 2.5 m/s (200- 500 f/min.)

Within each range the appropriate value depends on:

Lower end of the range	Upper end of the range
1: Room air currents minimal or favourable to capture	1: Disturbing room air currents
2: Contaminants of low toxicity or of nuisance value only.	2: Contaminants of high toxicity
3: Intermittent, low production.	3: High production, heavy use
4: Large hood or large air mass in motion	4: Small hood- local control only

Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 1-2.5 m/s (200-500 f/min.) for extraction of gases discharged 2 meters distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.

The need for respiratory protection should also be assessed where incidental or accidental exposure is anticipated: Dependent on levels of contamination, PAPR, full face air purifying devices with P2 or P3 filters or air supplied respirators should be evaluated.
The following protective devices are recommended where exposures exceed the recommended exposure control guidelines by factors of:
10; high efficiency particulate (HEPA) filters or cartridges
10-25; loose-fitting (Tyvek or helmet type) HEPA powered-air purifying respirator.

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25-50; a full face-piece negative pressure respirator with HEPA filters
50-100; tight-fitting, full face-piece HEPA PAPR
100-1000; a hood-shroud HEPA PAPR or full face-piece supplied air respirator operated in pressure demand or other positive pressure mode.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

White. almost odourless, crystalline powder; does not mix well with water.
Solutions discolour on storage.

PHYSICAL PROPERTIES

Solid.
Does not mix with water.

Molecular Weight: 130.1
Melting Range (°C): 282 (decomposes)
Solubility in water (g/L): Partly miscible
pH (1% solution): Not applicable
Volatile Component (%vol): Negligible
Relative Vapour Density (air=1): Not applicable
Lower Explosive Limit (%): Not available.
Autoignition Temp (°C): Not available.
State: Divided solid

Boiling Range (°C): Not applicable
Specific Gravity (water=1): Not available.
pH (as supplied): Not applicable
Vapour Pressure (kPa): Negligible
Evaporation Rate: Not applicable
Flash Point (°C): Not applicable
Upper Explosive Limit (%): Not available.
Decomposition Temp (°C): Not available

Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

CONDITIONS CONTRIBUTING TO INSTABILITY

- Presence of incompatible materials.
- Product is considered stable.
- Hazardous polymerisation will not occur.

Section 11 - TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

Severely toxic effects may result from the accidental ingestion of the material; animal experiments indicate that ingestion of less than 5 gram may be fatal or may produce serious damage to the health of the individual.
Antineoplastic action is dependent on cytotoxic action which is not selective for malignant cells alone but may affect all rapidly dividing cells. The spectrum of effects seen with these agents is therefore similar although differences do arise. Acute adverse effects commonly produced by these agents include anorexia, nausea and vomiting (often central in origin and occurring minutes or hours after administration), allergic reaction (skin rashes, pruritus, erythema, hypotension, malaise, and anaphylaxis) and local

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irritant effects. Hyperuricaemia and acute renal failure (due to uric acid nephropathy) may resulting from the lysis of large numbers of cells and breakdown of nucleoproteins.

EYE
Although the material is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn).

SKIN
Skin contact with the material may damage the health of the individual; systemic effects may result following absorption.
Limited evidence exists, or practical experience predicts, that the material either produces inflammation of the skin in a substantial number of individuals following direct contact, and/or produces significant inflammation when applied to the healthy intact skin of animals, for up to four hours, such inflammation being present twenty-four hours or more after the end of the exposure period. Skin irritation may also be present after prolonged or repeated exposure; this may result in a form of contact dermatitis (nonallergic). The dermatitis is often characterised by skin redness (erythema) and swelling (oedema) which may progress to blistering (vesiculation), scaling and thickening of the epidermis. At the microscopic level there may be intercellular oedema of the spongy layer of the skin (spongiosis) and intracellular oedema of the epidermis.
Open cuts, abraded or irritated skin should not be exposed to this material.
Toxic effects may result from skin absorption.
PHOTOSENSITISER: Certain individuals working with this substance may show an abnormally heightened or allergic reaction of the skin to the influence of sunlight. This results in sensitivity to sun, which may be severe, unless protective covering and 15+SPF sunblock cream are used. Responses may vary from sunburn-like responses to edematous, vesiculated lesions or bullae.

INHALED
Inhalation may produce health damage*.
The material is not thought to produce respiratory irritation (as classified by EC Directives using animal models). Nevertheless inhalation, of the material, especially for prolonged periods, may produce respiratory discomfort and occasionally, distress.
Persons with impaired respiratory function, airway diseases and conditions such as emphysema or chronic bronchitis, may incur further disability if excessive concentrations of particulate are inhaled.

CHRONIC HEALTH EFFECTS
On the basis, primarily, of animal experiments, concern has been expressed by at least one classification body that the material may produce carcinogenic or mutagenic effects; in respect of the available information, however, there presently exists inadequate data for making a satisfactory assessment.
There exists limited evidence that shows that skin contact with the material is capable either of inducing a sensitisation reaction in a significant number of individuals, and/or of producing positive response in experimental animals.
Principal routes of exposure are by accidental skin and eye contact and inhalation of generated dusts.
Delayed or long-term effects may result from the action of antineoplastic agents on rapidly dividing normal cells in the bone marrow, lymphoreticular tissue, gastrointestinal mucosa, skin, gonads and foetus. The most common of these is bone-marrow depression with leucopenia, anaemia, thrombocytopenia and bleeding. Immunosuppressant effects involve both antibody and cell-mediated immunity and may increase susceptibility to infection and increase the risk of haemorrhage, both potentially life-threatening. GI effects may include stomatitis, mouth ulcers, oesophagitis, abdominal pain, haemorrhage,

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diarrhoea and intestinal ulceration and perforation. Reversible baldness (alopecia) may result from the action of theses drugs on active hair follicles. Wound healing may be delayed. Long-term effects on the gonads may result in amenorrhoea and the inhibition of spermatogenesis.

Most antineoplastics are potentially mutagenic or teratogenic and coupled with the effects of prolonged immunosuppression may also be carcinogenic.
Exposure to small quantities may induce hypersensitivity reactions characterised by acute bronchospasm, hives (urticaria), deep dermal wheals (angioneurotic oedema), running nose (rhinitis) and blurred vision. Anaphylactic shock and skin rash (non-thrombocytopenic purpura) may occur. An individual may be predisposed to such antibody mediated reaction if other chemical agents have caused prior sensitisation (cross-sensitivity).

TOXICITY AND IRRITATION

TOXICITY	IRRITATION
Oral (rat) LD50: 230 mg/kg	Nil Reported
Intraperitoneal (rat) LD50: 70 mg/kg	
Subcutaneous (rat) LD50: 217 mg/kg	
Intravenous (rat) LD50: 245 mg/kg	
Intramuscular (rat) LD50: 240 mg/kg	
Parenteral (rat) LD50: 500 mg/kg	
Rectal rat LD50: 884 mg/kg	
Oral (mouse) LD50: 115 mg/kg	
Intraperitoneal (mouse) LD50: 100 mg/kg	
Subcutaneous (mouse) LD50: 169 mg/kg	
Intravenous (mouse) LD50: 81 mg/kg	
Intracerebral (mouse) LD50: 41.6 mg/kg	
Oral (dog) LD50: 30 mg/kg	
Oral (rabbit) LD50: 18.9 mg/kg	
Intravenous (g.pig) LD50: 18.9 mg/kg	

The substance is classified by IARC as Group 3:
NOT classifiable as to its carcinogenicity to humans.
Evidence of carcinogenicity may be inadequate or limited in animal testing.
NOTE: Substance has been shown to be mutagenic in at least one assay, or belongs to a family of chemicals producing damage or change to cellular DNA.
Exposure to the material for prolonged periods may cause physical defects in the developing embryo (teratogenesis).
Sensory change, ptosis and other eye effects, muscle weakness, changes in coronary arteries, EKG changes, cardiac changes, elevated blood pressure, respiratory tract tumours, diarrhoea, nausea, vomiting, haemolysis, changes in bone marrow, blood tumours, paternal effects, maternal effects, foetotoxicity, foetolethality, specific developmental abnormalities (eye, ear, craniofacial, musculoskeletal system, gastrointestinal system, homeostasis), effects on newborn recorded.

Section 12 - ECOLOGICAL INFORMATION

Marine Pollutant:Not Determined
No data for fluorouracil.

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Section 13 - DISPOSAL CONSIDERATIONS

· Recycle wherever possible. Special hazard may exist - specialist advice may be required.
· Consult manufacturer for recycling options.
· Consult State Land Waste Management Authority for disposal.
· Bury or incinerate residue at an approved site.
· Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.
· Puncture containers to prevent re-use and bury at an authorised landfill.

WASTE DISPOSAL PROCEDURES
• Wear protective clothing, gloves and goggles to control personal contact from fluorouracil. Add 40mL of an aqueous calcium hypochlorite solution, to each 10mL
solution, containing 500mg of flourouracil. Allow the solution to be stirred for
five hours. Filter the solution, and discard the calcium fluoride with normal refuse. Wash the filtrate into the drain with water [Armour 1996].

SPILLAGE DISPOSAL
• Wear protective clothing, gloves and goggles to control personal contact from solutions of fluorouracil. Cover the spill with a 1:1:1 mixture by weight of soda ash, bentonite and sand. Scoop the mixture into a container and transfer into a well ventilated area. Add 10% calcium hypochlorite solution, allowing 10mL for each 500mg of flourouracil. Allow to stand overnight and empty the liquid into the drain with water and dispose of the solid with normal refuse [Armour 1996].

Section 14 - TRANSPORTATION INFORMATION

Labels Required: TOXIC
HAZCHEM: 2X

UNDG:

Dangerous Goods Class:	6.1	Subrisk:	None
UN Number:	3249	Packing Group:	III

Shipping Name:MEDICINE, SOLID, TOXIC, N.O.S.

Air Transport IATA:

ICAO/IATA Class:	6.1	ICAO/IATA Subrisk:	None
UN/ID Number:	3249	Packing Group:	III
ERG Code:	6L		

Shipping name:MEDICINE, SOLID, TOXIC, N.O.S.

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Section 14 - TRANSPORTATION INFORMATION

Maritime Transport IMDG:

IMDG Class:	6.1	IMDG Subrisk:	None
UN Number:	3249	Packing Group:	III
EMS Number:	F- A, S- A	Marine Pollutant:	Not Determined

Shipping name:MEDICINE, SOLID, TOXIC, N.O.S.

Section 15 - REGULATORY INFORMATION

REGULATIONS

fluorouracil (CAS: 51-21-8) is found on the following regulatory lists;
International Agency for Research on Cancer (IARC) Carcinogens

No data available for fluorouracil as CAS: 79108-01-3, CAS: 4921-97-5, CAS: 1004-03-1.

Section 16 - OTHER INFORMATION

Denmark Advisory list for selfclassification of dangerous substances

Substance	CAS	Suggested codes
fluorouracil	51- 21- 8	Xn; R22

INGREDIENTS WITH MULTIPLE CAS NUMBERS

Ingredient Name	CAS
fluorouracil	51- 21- 8, 79108- 01- 3, 4921 - 97- 5, 1004- 03- 1

The above information is believed to be accurate and represent the best information currently available to us, but does not represent any warranty expressed or implied of the properties of the product. User should make their own investigation to determine the suitability of the information for their particular purpose.

Issue Date: 3-Aug-2017