

FURAN - 2 CAPSULES

Chemwatch Material Safety Data Sheet
Issue Date: 5-Jan-2006

CHEMWATCH 4658-65
CD 2005/4 Page 1 of 11

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

FURAN - 2 CAPSULES

STATEMENT OF HAZARDOUS NATURE

**CONSIDERED A HAZARDOUS SUBSTANCE ACCORDING TO OSHA 29 CFR
1910.1200.**

SUPPLIER

Company: Aquarium Pharmaceuticals Incorporated
Address:
PO Box 218
Chalfont
PA, 18914-0218
USA
Telephone: +1 215 822 8181
Emergency Tel: +1800 222 1222 (US Only)

Company: Aquarium Pharmaceuticals Incorporated
Address:
50 East Hamilton Street
Chalfont
PA, 18914
USA
Telephone: +1 215 822 8181

PRODUCT USE

Used according to manufacturers directions. For products 70A and 70B.

SYNONYMS

Section 2 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
alpha-lactose	63-42-3	>70
Nitrofurazone	59-87-0	10-20
furazolidone	67-45-8	1-10
methylene blue	61-73-4	<1

Section 3 - HAZARDS IDENTIFICATION

CANADIAN WHMIS SYMBOLS



EMERGENCY OVERVIEW

RISK

Cumulative effects may result following exposure*.
Possible skin sensitizer*.

continued...

FURAN - 2 CAPSULES

Chemwatch Material Safety Data Sheet

Issue Date: 5-Jan-2006

CHEMWATCH 4658-65

CD 2005/4 Page 2 of 11

Section 3 - HAZARDS IDENTIFICATION

Exposure may produce irreversible effects*.
May affect fertility*.

*(limited evidence)

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

The material has NOT been classified as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence. The material may still be damaging to the health of the individual, following ingestion, especially where pre-existing organ (e.g. liver, kidney) damage is evident. Present definitions of harmful or toxic substances are generally based on doses producing mortality (death) rather than those producing morbidity (disease, ill-health).

Gastrointestinal tract discomfort may produce nausea and vomiting. In an occupational setting however, unintentional ingestion is not thought to be cause for concern.

EYE

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

SKIN

The material is not thought to produce adverse health effects or skin irritation following contact (as classified using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting.

Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.

INHALED

The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.

CHRONIC HEALTH EFFECTS

Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure. There has been some concern that this material can cause cancer or mutations but there is not enough data to make an assessment. There is limited evidence that, skin contact with this product is more likely to cause a sensitization reaction in some persons compared to the general population. There is some evidence to provide a presumption that human exposure to the material may result in impaired fertility on the basis of: some evidence in animal studies of impaired fertility in the absence of toxic effects, or evidence of impaired fertility occurring at around the same dose levels as other toxic effects but which is not a secondary non-specific consequence of other toxic effects. Derivatives of 5-nitrofurans can increase the risk of bladder cancer.

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FURAN - 2 CAPSULES

Chemwatch Material Safety Data Sheet

Issue Date: 5-Jan-2006

CHEMWATCH 4658-65
CD 2005/4 Page 3 of 11

Section 4 - FIRST AID MEASURES

SWALLOWED

- Immediately give a glass of water.
- First aid is not generally required. If in doubt, contact a Poisons Information Center or a doctor.

EYE

If this product comes in contact with eyes:

- Wash out immediately with water.
- If irritation continues, seek medical attention.
- 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 fumes or combustion products are inhaled remove from contaminated area.
- Other measures are usually unnecessary.

NOTES TO PHYSICIAN

Treat symptomatically.

Section 5 - FIRE FIGHTING MEASURES

Flash Point (F): Not Applicable

Lower Explosive Limit (%): Not Applicable

Upper Explosive Limit (%): Not Applicable

Autoignition Temp (F): Not Applicable

EXTINGUISHING MEDIA

- There is no restriction on the type of extinguisher which may be used.
- Use extinguishing media suitable for surrounding area.

FIRE FIGHTING

- Alert Emergency Responders 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 course.
- 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.

GENERAL FIRE HAZARDS/HAZARDOUS COMBUSTIBLE PRODUCTS

- Non combustible.
 - Not considered to be a significant fire risk, however containers may burn.
- Decomposition may produce toxic fumes of, carbon dioxide (CO₂), nitrogen oxides

continued...

FURAN - 2 CAPSULES

Chemwatch Material Safety Data Sheet

Issue Date: 5-Jan-2006

CHEMWATCH 4658-65

CD 2005/4 Page 4 of 11

Section 5 - FIRE FIGHTING MEASURES

(NO_x), other pyrolysis products typical of burning organic material.

May emit poisonous fumes.

May emit corrosive fumes.

FIRE INCOMPATIBILITY

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

PERSONAL PROTECTION

Glasses:

Chemical goggles.

Gloves:

PVC chemical resistant type.

Respirator:

Section 6 - ACCIDENTAL RELEASE MEASURES

MINOR SPILLS

- Clean up all spills immediately.
- Secure load if safe to do so.
- Bundle/collect recoverable product.
- Collect remaining material in containers with covers for 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.

ACUTE EXPOSURE GUIDELINE LEVELS (AEGLE) (in ppm)

AEGLE 1: The airborne concentration of a substance above which it is predicted that the general population, including susceptible individuals, could experience notable discomfort, irritation, or certain asymptomatic nonsensory effects. However, the effects are not disabling and are transient and reversible upon cessation of exposure.

AEGLE 2: The airborne concentration of a substance above which it is predicted that the general population, including susceptible individuals, could experience irreversible or other serious, long-lasting adverse health effects or an impaired ability to escape.

AEGLE 3: The airborne concentration of a substance above which it is predicted that the general population, including susceptible individuals, could experience life-threatening health effects or death.

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FURAN - 2 CAPSULES

Chemwatch Material Safety Data Sheet

Issue Date: 5-Jan-2006

CHEMWATCH 4658-65
CD 2005/4 Page 5 of 11

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of exposure occurs.
- Use in a well-ventilated area.
- Prevent concentration in hollows and sumps.
- DO NOT enter confined spaces until atmosphere has been checked.
- DO NOT allow material to contact humans, exposed food or food utensils.
- Avoid contact with incompatible materials.
- When handling, DO NOT eat, drink or smoke.
- Keep containers securely sealed when not in use.
- Avoid physical damage to containers.
- Always wash hands with soap and water after handling.
- Work clothes should be laundered separately.
- Launder contaminated clothing before re-use.
- Use good occupational work practice.
- Observe manufacturer's storing and handling recommendations.
- Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.

RECOMMENDED STORAGE METHODS

- Polyethylene or polypropylene container.
- Packing as recommended by manufacturer
- Check all containers are clearly labeled and free from leaks.

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

No data available: alpha-lactose as (CAS: 63-42-3) / (CAS: 5989-81-1) / (CAS: 14641-93-1) / (CAS: 64044-51-5) / (CAS: 63-42-3)
No data available: Nitrofurazone as (CAS: 59-87-0)
No data available: furazolidone as (CAS: 67-45-8)
No data available: methylene blue as (CAS: 61-73-4) / (CAS: 7220-79-3)

No data for Furan - 2 Capsules.

REPRODUCTIVE HEALTH GUIDELINES

Established occupational exposure limits frequently do not take into consideration reproductive end points that are clearly below the thresholds for other toxic effects. Occupational reproductive guidelines (ORGs) have been suggested as an additional standard. These have been established after a literature search for reproductive no-observed-adverse effect-level (NOAEL) and

continued...

FURAN - 2 CAPSULES

Chemwatch Material Safety Data Sheet

Issue Date: 5-Jan-2006

CHEMWATCH 4658-65

CD 2005/4 Page 6 of 11

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

the lowest-observed-adverse-effect-level (LOAEL). In addition the US EPA's procedures for risk assessment for hazard identification and dose-response assessment as applied by NIOSH were used in the creation of such limits.

Ingredient	ORG	UF	Endpoint	CR	TLV Adeq
Nitrofurazone	0.09 mg/m ³	1000	R	NA	-

These exposure guidelines have been derived from a screening level of risk assessment and should not be construed as unequivocally safe limits. ORGS represent an 8-hour time-weighted average unless specified otherwise.

CR = Cancer Risk/10000; UF = Uncertainty factor:

TLV believed to be adequate to protect reproductive health:

LOD: Limit of detection

Toxic endpoints have also been identified as:

D = Developmental; R = Reproductive; TC = Transplacental carcinogen

Jankovic J., Drake F.: A Screening Method for Occupational Reproductive Health

Risk: American Industrial Hygiene Association Journal 57: 641-649 (1996).

INGREDIENT DATA

ALPHA-LACTOSE:

Dusts not otherwise classified, as inspirable dust;

ES TWA: 10 mg/m³.

For each of the following

NITROFURAZONE:

METHYLENE BLUE:

Dusts not otherwise classified, as inspirable dust;

ES TWA: 10 mg/m³.

Particulate (insoluble or poorly soluble *) Not Otherwise Specified (P.N.O.C)

TLV TWA: 10 mg/m³ Inhalable particulate

TLV TWA: 3 mg/m³ Respirable particulate

OEL-Sweden, United Kingdom: 10 mg/m³ total dust, 5 mg/m³ respirable dust

These "dusts" have little adverse effect on the lungs and do not produce toxic effects or organic disease. Although there is no dust which does not evoke some cellular response at sufficiently high concentrations, the cellular response caused by P.N.O.C.s has the following characteristics:

- the architecture of the air spaces remain intact,
- scar tissue (collagen) is not synthesised to any degree,
- tissue reaction is potentially reversible.

Extensive concentrations of P.N.O.C.s may:

- seriously reduce visibility,
- cause unpleasant deposits in the eyes, ears and nasal passages,
- contribute to skin or mucous membrane injury by chemical or mechanical action, per se, or by the rigorous skin cleansing procedures necessary for their removal. [ACGIH]

This limit does not apply:

- to brief exposures to higher concentrations
- nor does it apply to those substances that may cause physiological impairment at lower concentrations but for which a TLV has as yet to be determined.

This exposure standard applies to particles which

- are insoluble or poorly soluble* in water or, preferably, in aqueous lung

continued...

FURAN - 2 CAPSULES

Chemwatch Material Safety Data Sheet

Issue Date: 5-Jan-2006

CHEMWATCH 4658-65

CD 2005/4 Page 7 of 11

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

fluid (if data is available) and

- have a low toxicity (i.e.. are not cytotoxic, genotoxic, or otherwise chemically reactive with lung tissue, and do not emit ionizing radiation, cause immune sensitization, or cause toxic effects other than by inflammation or by a mechanism of lung overload)

* Notice of intended change.

FURAZOLIDONE:

No significant acute toxicological data identified in literature search.

Particulate (insoluble or poorly soluble *) Not Otherwise Specified (P.N.O.C)

TLV TWA: 10 mg/m³ Inhalable particulate

TLV TWA: 3 mg/m³ Respirable particulate

OEL-Sweden, United Kingdom: 10 mg/m³ total dust, 5 mg/m³ respirable dust

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This limit does not apply:

- to brief exposures to higher concentrations
- nor does it apply to those substances that may cause physiological impairment at lower concentrations but for which a TLV has as yet to be determined.

This exposure standard applies to particles which

- are insoluble or poorly soluble* in water or, preferably, in aqueous lung fluid (if data is available) and

- have a low toxicity (i.e.. are not cytotoxic, genotoxic, or otherwise chemically reactive with lung tissue, and do not emit ionizing radiation, cause immune sensitization, or cause toxic effects other than by inflammation or by a mechanism of lung overload)

* Notice of intended change.

OEL STEL (Russia): 0.5 mg/kg

PERSONAL PROTECTION

EYE

- Safety glasses with side shields.
- Chemical goggles.
- Contact lenses pose a special hazard; soft lenses may absorb irritants and all lenses concentrate them. DO NOT wear contact lenses.

HANDS/FEET

Wear chemical protective gloves, eg. PVC.

Wear safety footwear or safety gumboots, eg. Rubber.

continued...

FURAN - 2 CAPSULES

Chemwatch Material Safety Data Sheet

Issue Date: 5-Jan-2006

CHEMWATCH 4658-65

CD 2005/4 Page 8 of 11

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

NOTE: The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact.

OTHER

- Overalls.
- P.V.C. apron.
- Barrier cream.
- Skin cleansing cream.
- Eye wash unit.

The local concentration of material, quantity and conditions of use determine the type of personal protective equipment required.

Use appropriate NIOSH-certified respirator based on informed professional judgement. In conditions where no reasonable estimate of exposure can be made, assume the exposure is in a concentration IDLH and use NIOSH-certified full face pressure demand SCBA with a minimum service life of 30 minutes, or a combination full facepiece pressure demand SAR with auxiliary self-contained air supply. Respirators provided only for escape from IDLH atmospheres shall be NIOSH-certified for escape from the atmosphere in which they will be used.

ENGINEERING CONTROLS

General exhaust is adequate under normal operating conditions. If risk of overexposure exists, wear an approved respirator. Correct fit is essential to obtain adequate protection. Provide adequate ventilation in warehouse or closed storage areas.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL PROPERTIES

Mixes with water.

Molecular Weight: Not Applicable
Melting Range (C): Not Applicable
Solubility in water (g/L): Miscible
pH (1% solution): Not Applicable
Volatile Component (%vol): Not Applicable
Relative Vapor Density (air=1): Not Applicable
Lower Explosive Limit (%): Not Applicable
Autoignition Temp (C): Not Applicable
State: Manufactured

Boiling Range (C): Not Applicable
Specific Gravity (water=1): Not Available
pH (as supplied): Not Applicable
Vapor Pressure (kPa): Not Applicable
Evaporation Rate: Not Applicable
Flash Point (C): Not Applicable
Upper Explosive Limit (%): Not Applicable
Decomposition Temp (°C): Not Available

APPEARANCE

Orange capsule containing flowable greenish-yellow powder with no odor; soluble in water.

continued...

FURAN - 2 CAPSULES

Chemwatch Material Safety Data Sheet

Issue Date: 5-Jan-2006

CHEMWATCH 4658-65
CD 2005/4 Page 9 of 11

Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

CONDITIONS CONTRIBUTING TO INSTABILITY

Product is considered stable and hazardous polymerization will not occur.

STORAGE INCOMPATIBILITY

Avoid strong bases.

Avoid reaction with oxidizing agents.

Section 11 - TOXICOLOGICAL INFORMATION

Furan - 2 Capsules

Not available. Refer to individual constituents.

unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances

ALPHA-LACTOSE:

TOXICITY

Oral (rat) LD50: >10000 mg/kg

Equivocal tumorigenic agent by RTECS criteria.

IRRITATION

Nil Reported

NITROFURAZONE:

TOXICITY

Oral (rat) LD50: 590 mg/kg

Subcutaneous (rat) LD50: 3000 mg/kg

Oral (mouse) LD50: 249 mg/kg

Intraperitoneal (mouse) LD50: 96 mg/kg

Subcutaneous (mouse) LD50: 753 mg/kg

Respiratory tract tumours, paternal effects, effects on fertility, foetotoxicity, foetolethality, specific developmental abnormalities (musculoskeletal system) recorded.

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.

IRRITATION

Nil Reported

FURAZOLIDONE:

TOXICITY

Oral (rat) LD50: 2336 mg/kg

Oral (mouse) LD50: 1782 mg/kg

Intraperitoneal (mouse) LD50: 300 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.

Dyspnae, respiratory depression, eosinophilia, paternal effects (involving spermatogenesis) and abortion recorded.

ADI: 0.0004 mg/kg/day

NOEL: 0.75 mg/kg/day

IRRITATION

Nil Reported

METHYLENE BLUE:

TOXICITY

Oral (rat) LD50: 1180 mg/kg

IRRITATION

Nil reported

continued...

FURAN - 2 CAPSULES

Chemwatch Material Safety Data Sheet

Issue Date: 5-Jan-2006

CHEMWATCH 4658-65

CD 2005/4 Page 10 of 11

Section 11 - TOXICOLOGICAL INFORMATION

Oral (mouse) LD50: 3500 mg/kg

Section 12 - ECOLOGICAL INFORMATION

DO NOT discharge into sewer or waterways.
Refer to data for ingredients, which follows:

METHYLENE BLUE:

Fish LC50 (96hr.) (mg/l): 100

Section 13 - DISPOSAL CONSIDERATIONS

Disposal Instructions

All waste must be handled in accordance with local, state and federal regulations.

- Recycle wherever possible or consult manufacturer for recycling options.
- Consult Waste Management Authority for disposal.
- Bury or incinerate residue at an approved site.
- Recycle containers if possible, or dispose of in an authorized landfill.

Section 14 - TRANSPORTATION INFORMATION

NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS:UN,IATA,IMDG

Section 15 - REGULATORY INFORMATION

RISK

None under normal operating conditions.

REGULATIONS

alpha-lactose (CAS: 63-42-3) is found on the following regulatory lists;

Canada Domestic Substances List (DSL)

US Toxic Substances Control Act (TSCA)

alpha-lactose (CAS: 5989-81-1) is found on the following regulatory lists;

Canada Domestic Substances List (DSL)

US Toxic Substances Control Act (TSCA)

alpha-lactose (CAS: 14641-93-1) is found on the following regulatory lists;

Canada Domestic Substances List (DSL)

US Toxic Substances Control Act (TSCA)

alpha-lactose (CAS: 64044-51-5) is found on the following regulatory lists;

Canada Domestic Substances List (DSL)

US Toxic Substances Control Act (TSCA)

alpha-lactose (CAS: 10039-26-6) is found on the following regulatory lists;

Canada Domestic Substances List (DSL)

US Toxic Substances Control Act (TSCA)

Nitrofurazone (CAS: 59-87-0) is found on the following regulatory lists;

Canada Domestic Substances List (DSL)

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FURAN - 2 CAPSULES

Chemwatch Material Safety Data Sheet

Issue Date: 5-Jan-2006

CHEMWATCH 4658-65

CD 2005/4 Page 11 of 11

Section 15 - REGULATORY INFORMATION

US - California Occupational Safety and Health Regulations (CAL/OSHA) - Hazardous Substances List

US - California Proposition 65 - Carcinogens

US - California Proposition 65 - No Significant Risk Levels (NSRLs) for Carcinogens

US Toxic Substances Control Act (TSCA)

furazolidone (CAS: 67-45-8) is found on the following regulatory lists;

Canada Domestic Substances List (DSL)

US - California Proposition 65 - Carcinogens

US - California Proposition 65 - Priority List for the Development of NSRLs for Carcinogens

US Toxic Substances Control Act (TSCA)

methylene blue (CAS: 61-73-4) is found on the following regulatory lists;

Canada Domestic Substances List (DSL)

Canada Ingredient Disclosure List (SOR/88-64)

US Toxic Substances Control Act (TSCA)

No data available for methylene blue as CAS: 7220-79-3.

Section 16 - OTHER INFORMATION

LIMITED EVIDENCE

Cumulative effects may result following exposure*.

Limited evidence of a carcinogenic effect*.

Possible skin sensitiser*.

May affect fertility*.

* (limited evidence).

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