



# HOT/COLD PACK(BLUE)

Chemwatch Material Safety Data Sheet (Conforms to 91/155/EEC - 2001/58/EC)  
Issue Date: 23-Mar-2007  
NA160TCP

CHEMWATCH 0703211  
Version No:2.0  
CD 2007/1 Page 1 of 10

## Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

### PRODUCT NAME

HOT/COLD PACK(BLUE)

### SUPPLIER

Reliance Medical Ltd  
The Radnor Building  
Radnor Park Trading Estate  
Back Lane  
Congleton  
Cheshire  
CW12 4XP

### SYNONYMS

SHJ0000357

## Section 2 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	INT HAZ	%
water EC NO: 231-791-2	7732-18-5	None	73
sodium carboxymethylcellulose	9004-32-4	None	5
glycerol EC NO: 200-289-5	56-81-5	None	21
isothiazolin R CODES: R23/24/25, R34, R43, R50/53	55965-84-9	TCN	0.1

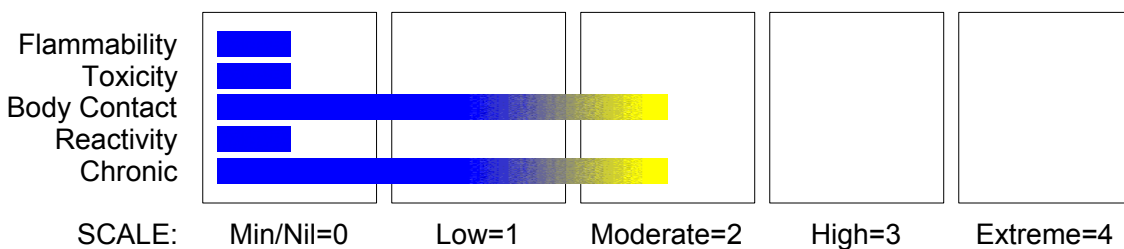
## Section 3 - HAZARDS IDENTIFICATION

### STATEMENT OF HAZARDOUS NATURE

**CONSIDERED A DANGEROUS SUBSTANCE ACCORDING TO DIRECTIVE 1999/45/EC AND ITS AMENDMENTS.**

**CONSIDERED A HAZARDOUS SUBSTANCE ACCORDING TO OSHA 29 CFR 1910.1200. HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS. According to the Criteria of NOHSC, and the ADG Code.**

### HAZARD RATINGS



# HOT/COLD PACK(BLUE)

Chemwatch Material Safety Data Sheet (Conforms to 91/155/EEC - 2001/58/EC)

Issue Date: 23-Mar-2007

NA160TCP

CHEMWATCH 0703211

Version No:2.0

CD 2007/1 Page 2 of 10

Section 3 - HAZARDS IDENTIFICATION

---

## POTENTIAL HEALTH EFFECTS

### ACUTE HEALTH EFFECTS

#### SWALLOWED

Although ingestion is not thought to produce harmful effects (as classified under EC Directives), 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 rather than those producing morbidity (disease, ill-health). Gastrointestinal tract discomfort may produce nausea and vomiting. In an occupational setting however, ingestion of insignificant quantities is not thought to be cause for concern.

#### EYE

Evidence exists, or practical experience predicts, that the material may cause eye irritation in a substantial number of individuals and/or may produce significant ocular lesions which are present twenty-four hours or more after instillation into the eye(s) of experimental animals.

Repeated or prolonged eye contact may cause inflammation characterised by temporary redness (similar to windburn) of the conjunctiva (conjunctivitis); temporary impairment of vision and/or other transient eye damage/ulceration may occur.

#### SKIN

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.

Skin contact is not thought to have harmful health effects (as classified under EC Directives); the material may still produce health damage following entry through wounds, lesions or abrasions.

#### INHALED

The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives 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

Practical experience shows that skin contact with the material is capable either of inducing a sensitisation reaction in a substantial number of individuals, and/or of producing a positive response in experimental animals.

---

## Section 4 - FIRST AID MEASURES

No data for this material.

continued...

# HOT/COLD PACK(BLUE)

Chemwatch Material Safety Data Sheet (Conforms to 91/155/EEC - 2001/58/EC)

Issue Date: 23-Mar-2007

NA160TCP

CHEMWATCH 0703211

Version No:2.0

CD 2007/1 Page 3 of 10

---

## Section 5 - FIRE FIGHTING MEASURES

---

No data for this material.

## PERSONAL PROTECTION

Glasses:

Gloves:

Respirator:

Type A- P Filter of sufficient capacity

---

## Section 6 - ACCIDENTAL RELEASE MEASURES

---

### 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:

water 500 mg/m

glycerol 500 mg/m

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

water 500 mg/m

glycerol 50 mg/m

other than mild, transient adverse effects without perceiving a clearly defined odour is:

water 500 mg/m

glycerol 30 mg/m

The threshold concentration below which most people will experience no appreciable risk of health effects:

water 500 mg/m

glycerol 15 mg/m

American Industrial Hygiene Association (AIHA)

Ingredients considered according to the following cutoffs

Very Toxic (T+)  $\geq 0.1\%$  Toxic (T)  $\geq 3.0\%$

R50  $\geq 0.25\%$  Corrosive (C)  $\geq 5.0\%$

R51  $\geq 2.5\%$

else  $\geq 10\%$

where percentage is percentage of ingredient found in the mixture

## SAFE STORAGE WITH OTHER CLASSIFIED CHEMICALS



+ X + X 0 +

+: May be stored together

O: May be stored together with specific preventions

X: Must not be stored together

continued...

# HOT/COLD PACK(BLUE)

Chemwatch Material Safety Data Sheet (Conforms to 91/155/EEC - 2001/58/EC)

Issue Date: 23-Mar-2007

NA160TCP

CHEMWATCH 0703211

Version No:2.0

CD 2007/1 Page 4 of 10

---

## Section 7 - HANDLING AND STORAGE

---

### PROCEDURE FOR HANDLING

No data for this material.

No data for this material.

---

## Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

---

### EXPOSURE CONTROLS

The following materials had no OELs on our records

- water: CAS:7732-18-5
- sodium carboxymethylcellulose: CAS:9004-32-4

</table>

The following materials had no OELs on our records

- isothiazolin: CAS:55965-84-9

### MATERIAL DATA

Not available. Refer to individual constituents.

### INGREDIENT DATA

WATER:

No exposure limits set by NOHSC or ACGIH.

SODIUM CARBOXYMETHYLCELLULOSE:

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 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).

GLYCEROL:

The mist is considered to be a nuisance particulate which appears to have little adverse effect on the lung and does produce significant organic disease or toxic effects. OSHA concluded that this limit would protect the worker from kidney damage and perhaps, testicular effects.

ISOTHIAZOLIN:

continued...

# HOT/COLD PACK(BLUE)

Chemwatch Material Safety Data Sheet (Conforms to 91/155/EEC - 2001/58/EC)

Issue Date: 23-Mar-2007

NA160TCP

CHEMWATCH 0703211

Version No:2.0

CD 2007/1 Page 5 of 10

## Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

CEL TWA: 0.1 mg/m<sup>3</sup>; STEL 0.3 mg/m<sup>3</sup> total isothiazolinones (Rohm and Haas).

Designated S in List of MAK values: Danger of sensitization.

MAK Group D: Classification as to the effect of the substance on the developing embryo/foetus is not yet possible because although data may indicate a trend, they are not sufficient for a final evaluation.

MAK values, and categories and groups are those recommended within the Federal Republic of Germany.

MAK value: 0.05 mg/m<sup>3</sup>

### PERSONAL PROTECTION



### RESPIRATOR

Selection of the Class and Type of respirator will depend upon the level of breathing zone contaminant and the chemical nature of the contaminant. Protection Factors (defined as the ratio of contaminant outside and inside the mask) may also be important.

Breathing Zone Level ppm (volume)	Maximum Protection Factor	Half- face Respirator	Full- Face Respirator
1000	10	A- AUS P	-
1000	50	-	A- AUS P
5000	50	Airline *	-
5000	100	-	A- 2 P
10000	100	-	A- 3 P
	100+		Airline**

\* - Continuous Flow

\*\* - Continuous-flow or positive pressure demand.

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

For further information consult site specific CHEMWATCH data (if available), or your Occupational Health and Safety Advisor.

### ENGINEERING CONTROLS

No data for this material.

## Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

### PHYSICAL PROPERTIES

Molecular Weight:

Melting Range (°C):

Solubility in water (g/L):

pH (1% solution):

Volatile Component (%vol):

Relative Vapour Density (air=1):

Lower Explosive Limit (%):

Autoignition Temp (°C):

State:

Boiling Range (°C):

Specific Gravity (water=1):

pH (as supplied):

Vapour Pressure (kPa):

Evaporation Rate:

Flash Point (°C):

Upper Explosive Limit (%):

Decomposition Temp (°C): Not available

Viscosity: Not available

continued...

# HOT/COLD PACK(BLUE)

Chemwatch Material Safety Data Sheet (Conforms to 91/155/EEC - 2001/58/EC)

Issue Date: 23-Mar-2007

NA160TCP

CHEMWATCH 0703211

Version No:2.0

CD 2007/1 Page 6 of 10

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

## APPEARANCE

### Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

#### CONDITIONS CONTRIBUTING TO INSTABILITY

No data for this material.

### Section 11 - TOXICOLOGICAL INFORMATION

## HOT/COLD PACK(BLUE)

#### TOXICITY AND IRRITATION

Not available. Refer to individual constituents.

##### WATER:

No significant acute toxicological data identified in literature search.

##### SODIUM CARBOXYMETHYLCELLULOSE:

###### TOXICITY

Oral (rat) LD50: 27000 mg/kg

Oral (rat) TDLo: 140 mg/kg

Neoplastic by RTECS criteria

###### IRRITATION

Nil Reported

##### GLYCEROL:

###### TOXICITY

Oral (Rat) LD50: 12600 mg/kg

The material may be irritating to the eye, with prolonged contact causing inflammation.

Repeated or prolonged exposure to irritants may produce conjunctivitis.

The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis.

###### IRRITATION

##### ISOTHIAZOLIN:

###### TOXICITY

Oral (rat) LD50: 53 mg/kg

Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions. The significance of the contact allergen is not simply determined by its sensitisation potential: the distribution of the substance and the opportunities for contact with it are equally important. A weakly sensitising substance which is widely distributed can be a more important allergen than one with stronger sensitising potential with which few individuals come into contact. From a clinical point of view, substances are noteworthy if they produce an allergic test reaction in more than 1% of the persons tested.

The material may be irritating to the eye, with prolonged contact causing inflammation.

Repeated or prolonged exposure to irritants may produce conjunctivitis.

The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis.

###### IRRITATION

Nil Reported

continued...

# HOT/COLD PACK(BLUE)

Chemwatch Material Safety Data Sheet (Conforms to 91/155/EEC - 2001/58/EC)

Issue Date: 23-Mar-2007

NA160TCP

CHEMWATCH 0703211

Version No:2.0

CD 2007/1 Page 7 of 10

## Section 11 - TOXICOLOGICAL INFORMATION

Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. Key criteria for the diagnosis of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. A reversible airflow pattern, on spirometry, with the presence of moderate to severe bronchial hyperreactivity on methacholine challenge testing and the lack of minimal lymphocytic inflammation, without eosinophilia, have also been included in the criteria for diagnosis of RADS. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. Industrial bronchitis, on the other hand, is a disorder that occurs as result of exposure due to high concentrations of irritating substance (often particulate in nature) and is completely reversible after exposure ceases. The disorder is characterised by dyspnea, cough and mucous production.

## Section 12 - ECOLOGICAL INFORMATION

No data for HOT/COLD PACK(BLUE).  
Refer to data for ingredients, which follows:

### GLYCEROL:

Algae IC50 (72hr.) (mg/l):	2900- 10000
log Kow (Sangster 1997):	- 1.76
log Pow (Verschueren 1983):	1.07692307
BOD5:	51%
COD:	95%
ThOD:	93%

DO NOT discharge into sewer or waterways.

log Kow: -2.66- -2.47

BOD 5 if unstated: 0.617-0.87,31-51%

COD: 1.16,82-95%

ThOD: 1.217-1.56

Completely biodegradable.

Fish LC50: >5000 mg/l

Algae IC50: >2900 mg/l

Bacteria EC50: .10000 mg/l (*Pseudomonas putida*)

### ISOTHIAZOLIN:

The isothiazolinones are very toxic to marine organisms (fish, *Daphnia magna* and algae)

The high water solubility and low log Kow values of several chlorinated and non

-chlorinated indicate a low potential for bioaccumulation.

Studies of 5-chloro-2-methyl-4-isothiazolin-3-one (CMI) in bluegill sunfish (*Lepomis macrochirus*) show BCF values of 102, 114 and 67 at nominal concentrations of 0.02, 0.12 and 0.8 mg/l. The BCF for 2-methyl-4-isothiazolin-3-one (MI) was determined at 2.3 at a nominal concentration of 0.12 mg/l

Primary biodegradation of MI and CMI occurred with half-lives of less than 24 hours in aerobic and anoxic sediments, and within a period of less than one week the parent compounds were depleted to very low levels that could not be clearly distinguished from analytical artifacts. The ultimate aerobic biodegradability of both MI and CMI attained levels of > 55% within 29 days. Furthermore, the proposed metabolites of MI and CMI are considered to have a low aquatic toxicity on the basis of QSAR estimates and the measured toxicity of the structurally related N-(n-octyl) malonamic acid.

Prevent, by any means available, spillage from entering drains or water courses.

Do NOT allow product to come in contact with surface waters or to intertidal areas below

continued...

# HOT/COLD PACK(BLUE)

Chemwatch Material Safety Data Sheet (Conforms to 91/155/EEC - 2001/58/EC)

Issue Date: 23-Mar-2007

NA160TCP

CHEMWATCH 0703211

Version No:2.0

CD 2007/1 Page 8 of 10

Section 12 - ECOLOGICAL INFORMATION

the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters.

Wastes resulting from use of the product must be disposed of on site or at approved waste sites.

DO NOT discharge into sewer or waterways.

## Section 13 - DISPOSAL CONSIDERATIONS

According to the European Waste Catalogue, Waste Codes are not product specific but application specific. Waste Codes should be assigned by the User based on the application in which the product is used.

## Section 14 - TRANSPORTATION INFORMATION

HAZCHEM: None

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

## Section 15 - REGULATORY INFORMATION



### ANNEX 1

Ingredient	Annex 1 67/548/EEC
isothiazolin	613-167-00-5

### RISK

Risk Codes  
R36/38  
R43

Risk Phrases  
Irritating to eyes and skin.  
May cause SENSITISATION by skin contact.

### SAFETY

Safety Codes	Safety Phrases
S22	Do not breathe dust.
S24	Avoid contact with skin.
S39	Wear eye/face protection.
S401	To clean the floor and all objects contaminated by this material, use water and detergent.
S26	In case of contact with eyes, rinse with plenty of water and contact Doctor or Poisons Information Centre.
S46	If swallowed, IMMEDIATELY contact Doctor or Poisons Information Centre. (show this container or label).

### ANNEX 2: Indications of Danger

Xi	Irritant
----	----------

continued...

# HOT/COLD PACK(BLUE)

Chemwatch Material Safety Data Sheet (Conforms to 91/155/EEC - 2001/58/EC)

Issue Date: 23-Mar-2007

NA160TCP

CHEMWATCH 0703211

Version No:2.0

CD 2007/1 Page 9 of 10

Section 15 - REGULATORY INFORMATION

## REGULATIONS

water (CAS: 7732-18-5) is found on the following regulatory lists;

EU Directive 2002/72/EC Plastic materials and articles intended to come into contact with foodstuffs - Annex II Section A: List of authorised monomers and other starting substances

EU Directive 2002/72/EC Plastic materials and articles intended to come into contact with foodstuffs - Annex III Section A Incomplete list of additives fully harmonised at Community level

European Customs Inventory of Chemical Substances (English)

European Inventory of Existing Commercial Substances - EINECS

European Union (EU) Inventory of Ingredients used in Cosmetic Products

OECD Representative List of High Production Volume (HPV) Chemicals

sodium carboxymethylcellulose (CAS: 9004-32-4) is found on the following regulatory lists

;

CODEX General Standard for Food Additives (GSFA) - Additives Permitted for Use in Food in General, Unless Otherwise Specified, in Accordance with GMP

European Customs Inventory of Chemical Substances (English)

European Union (EU) Inventory of Ingredients used in Cosmetic Products

OECD Representative List of High Production Volume (HPV) Chemicals

glycerol (CAS: 56-81-5) is found on the following regulatory lists;

CODEX General Standard for Food Additives (GSFA) - Additives Permitted for Use in Food in General, Unless Otherwise Specified, in Accordance with GMP

EU Directive 2002/72/EC Plastic materials and articles intended to come into contact with foodstuffs - Annex II Section A: List of authorised monomers and other starting substances

EU Directive 2002/72/EC Plastic materials and articles intended to come into contact with foodstuffs - Annex III Section A Incomplete list of additives fully harmonised at Community level

European Customs Inventory of Chemical Substances (English)

European Inventory of Existing Commercial Substances - EINECS

European Union (EU) Inventory of Fragrance Ingredients (Perfume and Aromatic Raw Materials)

European Union (EU) Inventory of Ingredients used in Cosmetic Products

IMO MARPOL 73/78 (Annex II) - List of Other Liquid Substances

International Council of Chemical Associations (ICCA) - High Production Volume List

OECD Representative List of High Production Volume (HPV) Chemicals

UK Workplace Exposure Limits (WELs)

isothiazolin (CAS: 55965-84-9) is found on the following regulatory lists;

European Union (EU) Control of Major Accident Hazards Involving Dangerous Substances - Seveso Category

European Union (EU) List of Dangerous Substances (Annex I) - up to the 29th ATP

This safety data sheet is in compliance with the following

EU legislation and its adaptations – as far as applicable - : 67/548/EEC, 1999/45/EC, 76/769/EEC, 98/24/EC, 92/85/EEC, 94/33/EC, 91/689/EEC, 1999/13/EC, as well as the following British legislation:

- The Control of Substances Hazardous to Health Regulations (COSHH) 2002

- COSHH Essentials

- The Management of Health and Safety at Work Regulations 1999

continued...

# HOT/COLD PACK(BLUE)

Chemwatch Material Safety Data Sheet (Conforms to 91/155/EEC - 2001/58/EC)

Issue Date: 23-Mar-2007

NA160TCP

CHEMWATCH 0703211

Version No:2.0

CD 2007/1 Page 10 of 10

---

## Section 16 - OTHER INFORMATION

---

### LIMITED EVIDENCE

Cumulative effects may result following exposure\*.

\* (limited evidence).

### RISK

#### Explanation of Risk Codes used in the Ingredient Table

Risk Codes

R23/24/25

R34

R43

R50/53

None

Risk Phrases

Toxic by inhalation, in contact with skin and if swallowed.

Causes burns.

May cause SENSITISATION by skin contact.

Very toxic to aquatic organisms, may cause long- term adverse effects in the aquatic environment.

### ANNEX 2: Indications of Danger

N

Dangerous for the environment

T

Toxic

### EXPOSURE STANDARD FOR MIXTURES

"Worst Case" computer-aided prediction of spray/ mist or fume/ dust components and concentration:

Composite Exposure Standard for Mixture (TWA) :100 mg/m<sup>3</sup>.

Issue Date: 23-Mar-2007

Print Date: 23-Mar-2007

*This document is copyright. Apart from any fair dealing for the purposes of private study, research, review or criticism, as permitted under the Copyright Act, no part may be reproduced by any process without written permission from CHEMWATCH. TEL (+61 3) 9572 4700.*