

## Isotherm Cool Vest

The Bullard Isotherm technology offers unparalleled cooling power. Unlike ice or gel packs that steadily lose their effectiveness, the Bullard Isotherm Cool Vests can remain at a constant 55° F for hours of cooling. Isotherm can help reduce the chance of heat related illnesses that sometimes occur in today's difficult work environments. Isotherm features include:

- Lightweight
- Quickly recharged (20 minutes)
- No condensation
- Constant temperature
- Easy to swap packs
- Front/back cooling
- Easily adjustable for comfort

## Energizing Your Cool Packs

1. Remove the packs from the cool vest carrier.
2. Submerge the packs flat in a cooler of ice and water. Since the packs float, be sure to submerge them fully.  

In just a few minutes, the clear liquid inside the cool packs begins changing to a semi-solid, white waxy substance. In approximately 10-15 minutes, the packs should be totally charged and feel solid.

You may also lay the packs flat on a refrigerator or freezer shelf. Energizing in a refrigerator or freezer may require more time than the ice and water method. Be sure to lay the packs flat on a shelf for energizing.
3. Insert the energized cool packs into the cool vest pockets closing each side with Velcro<sup>®</sup>.

## Donning the Cool Vest

1. Place the vest over your torso using the shoulder and waist straps to ensure a comfortable fit.
2. When you first put on your cool vest, it will initially feel stiff. After approximately 15 minutes, the packs will soften and form to your body. You will acclimate quickly to the cooling sensation.
3. Like all Isotherm products, your cool vest carrier utilizes an advanced insulation to prolong the cooling life for your comfort. The cool packs may be energized thousands of times providing you with hours of optimum temperature comfort and increased performance.

## Cleaning and Storage

- Hand wash the cool vest fabric carrier in mild soap and water. Lay flat or hang to dry.
- Do not dry carrier in hot dryer. Hot temperatures may cause Velcro<sup>®</sup> to crimp.
- Do not use bleach or abrasive chemicals on fabric carrier.
- It is not necessary to dry clean fabric carrier.
- Use proper care when storing unit. Do not ball, roll or crimp the cool vest at any time.
- Store packs inside vest to avoid UV exposure.

## Isotherm Cool Vest Two Year Limited Warranty

Bullard will repair or replace any cool pack which breaks or ruptures as a result of faulty workmanship or materials for two years of normal use from the date of purchase. Isotherm cool vest fabric carriers are covered by the same two year warranty.



### ▲ CAUTION

Prior to use, check for tears or punctures of the material. Leakage of the cooling agent may cause skin irritation or rash. If skin rash develops, discontinue use and consult a health professional. Do not puncture, cut, or otherwise cause the release of these compounds from the vest. Do not expose to high heat or flame. Persons with circulatory problems should consult a physician before using this product. When heated to decomposition, the material emits acrid smoke and irritating vapors. The material can react with oxidizing materials. Failure to follow these instructions may result in minor or moderate injury.

**Americas:**  
**Bullard**  
1898 Safety Way  
Cynthiana, KY 41031-9303  
Toll free: 877-BULLARD (285-5273)  
Tel: 859-234-6616  
Fax: 859-234-8987

**Europe:**  
**Bullard GmbH**  
Lilienthalstrasse 12  
53424 Remagen • Germany  
Tel: +49-2642 999980  
Fax: +49-2642 9999829

**Asia-Pacific:**  
**Bullard Asia Pacific Pte. Ltd.**  
LHK Building  
701, Sims Drive, #04-03  
Singapore 387383  
Tel: +65-6745-0556  
Fax: +65-6745-5176



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# MATERIAL SAFETY DATA SHEET

## SECTION I: PRODUCT IDENTIFICATION

Bullard  
1898 Safety Way  
Cynthiana, KY 41031-9303

**Emergency Telephone No:**  
For emergency chemical spill, leak, exposure, or other accident, call 800-424-9300 (24 hour service).

**Product(s) Name:**  
Isotherm ISO2P  
Phase Change Packs

**Non-Emergency Telephone No:**  
For non-emergency health and safety information call 859-234-6616

**Date Prepared:** Original: March 5, 1996  
Revised: August 30, 2000

**HMIS Rating:**  
H (1), F (1), R (0), PP(B)

## SECTION II: HAZARDOUS INGREDIENTS

Ingredient:	CAS No:	Exposure Limit:	OSHA PEL	ACGIH TLV
n-Hexadecane	544-76-3	350 mg/m <sup>3</sup>	NDA	NDA
n-Tetradecane	629-59-4	350 mg/m <sup>3</sup>	NDA	NDA

THIS PRODUCT HAS NO DOT HAZARDOUS COMPONENTS

## SECTION III: PHYSICAL DATA

<b>Boiling Point:</b> 486° F (252° C)	<b>Specific Gravity:</b> 0.773 (H <sub>2</sub> O = 1)	<b>Vapor Pressure:</b> 1mm/222° F(106° C)
<b>Vapor Density:</b> 7 (Air = 1)	<b>Solubility in Water:</b> None	<b>Reactivity in Water:</b> None
<b>Appearance:</b> Colorless liquid	<b>Odor:</b> Mild wax odor	<b>Melting Point:</b> 58° F (14° C)

## SECTION IV: FIRE AND EXPLOSION DATA

<b>Flash Point:</b> 275° F (135° C)	<b>Method Used:</b> Closed Cup	<b>LEL/UEL Flammability:</b> Not Available
<b>Auto-Ignition Temperature:</b> Greater than 400° F (204° C)	<b>Extinguisher Media:</b> CO <sub>2</sub> , Foam, Dry Chemical	<b>Unusual Fire and Explosion Hazard:</b> None

**Special Fire Fighting Procedures:** Use of water on burning material may spread fire.

## SECTION V: PHYSICAL HAZARDS (REACTIVITY DATA)

<b>Stability:</b> Stable	<b>Hazardous Polymerization:</b> Will not occur
<b>Incompatibility:</b> Strong oxidizing agents	<b>Conditions to Avoid:</b> Contact with oxidizing agents
<b>Hazardous Decomposition Products:</b> CO <sub>2</sub> , CO	

## SECTION VI: HEALTH HAZARDS

<b>Acute:</b> Skin and eye irritant	<b>Chronic:</b> Not Determined
<b>Signs and Symptoms of Exposure:</b> Redness of skin	
<b>Medical Conditions Aggravated by Exposure:</b> Sensitive skin	
<b>Chemical Listed as Carcinogen or Potential Carcinogen:</b>	
National Toxicology Program: No, I.A.R.C. Monographs: No, OSHA: No	
<b>Emergency and First Aid Procedures:</b> Remove from area to fresh air. Remove contaminated clothing. Wash effected areas with soap and warm water.	
<b>Routes of Entry:</b>	
1) Inhalation: Remove to fresh air 2) Eyes: Flush with water 3) Skin: Wash with soap and warm water.	
4) Ingestion: Do not induce vomiting. Drink 3-4 glasses of water. Contact physician.	

## SECTION VII: SPECIAL PRECAUTIONS AND SPILL/LEAK PROCEDURES

**Precautions to be Taken in Handling and Storage:** Store in closed containers away from flames.

**Other Precautions:** Do not store with oxidizing agents.

**Steps to be Taken if Material is Released or Spilled:** Contain spill. Transfer to drums with pump or vacuum. Use absorbent material for small spills.

**Waste Disposal Methods:** Incineration. Dispose of in accordance with Federal, State, and Local regulations.

## SECTION VIII: SPECIAL PROTECTION INFORMATION/CONTROL MEASURES

<b>Respiratory Protection:</b> None under normal conditions.	<b>Ventilation:</b> Local exhaust
<b>Protective Gloves:</b> Rubber	<b>Eye Protection:</b> Safety Glasses
<b>Other Protective Clothing or Equipment:</b> None under normal conditions.	
<b>Work/Hygienic Practices:</b> Keep area and equipment clean.	

## SECTION IX: SPECIAL PRECAUTIONS

*Immediately discontinue using the Cooling Vest and/or other items if the inserts leak, rupture, or become opened. Avoid open flame or sparks if the phase change liquid is absorbed into vest or other material.*

## SECTION X: DOCUMENTARY INFORMATION

*The above information is, in part, based on material safety data sheets supplied by the vendor of the raw materials used in these products. The information is believed to be correct as of the date hereof. However, no warranty of merchantability, fitness for use, or any other warranty is expressed or is implied regarding the accuracy of this data, the results to be obtained from the use of the material, or hazards connected with such use. Since the information contained herein may be applied under conditions beyond our control, and with which we may be unfamiliar, and since data made available subsequent to the date hereof may suggest modification of the information, we do not assume responsibility for the results of its use. This information is furnished of the condition that the person receiving it shall make his or her own determination as to the suitability of the material for his or her particular purpose and the condition that he or she assumes the risk of his or her use thereof.*