

**MATERIAL SAFETY DATA SHEET**  
**ThermaCELL® Mosquito Repellent C-15 CARTRIDGE**  
 EPA Reg. No. 71910-2  
 The Schawbel Corp., 26 Crosby Drive, Bedford, MA 01730  
 781-541-6900

**Section I**

Manufacturers Name: Swedish Match  
 Chemical Name and Synonyms: cartridges contain a mixture of Isobutane, Propane, Normal butane, Pentane, Hexane and Heptane  
 Trade Name: Gas Cartridges (disposable)  
 Chemical Family:  
 Formula: Liquid Hydrocarbons

C-15 Cartridges are used in the Following Thermacell Products:  
 Thermacell Mosquito Repellent (appliance)  
 Thermacell Mosquito Repellent Lantern  
 Thermacell Mosquito Repellent Patio Lantern  
 Thermacell Compact Mosquito Repellent (compact appliance)  
 Thermacell Mini Mosquito Repellent Lantern  
 Thermacell Mosquito Repellent Refills

**Section II - Hazardous Ingredients**

<u>Paints, Preservatives and Solvents</u>	<u>%</u>	<u>TLV (Units)</u>	<u>Alloys and Metallic Coatings</u>	<u>%</u>	<u>TLV (Units)</u>
Pigments	0		Base Metal	0	
Calalyst	0		Alloys	0	
Vehicle	0		Metallic Coatings	0	
Solvents	0		Other	0	
Additives	0				
Other	0				

<u>Hazardous Mixtures of Other Liquids, Solids or Gases:</u>	<u>%</u>	<u>TLV (Units)</u>
Disposable gas cartridges contain:		
Isobutane	50	
Propane	15	
Normal butane	34	
Pentane	0.5	
Hexane / Heptane	balance	
Mixture		800(PPM)

**Section III - Physical Data**

Boiling Point (°F) at 1 Atmosphere:	10.9	Specific Gravity (H <sub>2</sub> O=1)	0.55 (liquid)
Vapor Pressure (PSIA) Absolute at 70°F	45	Percent Volatile by Volume (%)	100%
Vapor Density (Air=1) 1 Atmosphere 70°F	2.06	Evaporation Rate	NA (Depends on Surface Exchange Area)

**Section IV - Fire and Explosion Hazard Data**

<u>Flash Point (Method Used)</u>	<u>Flammable Limits</u>	<u>LEL</u>	<u>UEL</u>
N/A for Gas	In Air	1.8%	8.4%
<u>Extinguishing Media:</u>	Carbon Dioxide, Dry Chemical, or Water Spray		
<u>Special Fire Fighting Procedures:</u>	Protection from exploding cartridges is required if cartridges are subjected to high temperatures or open flames.		

**Section V - Health Hazard Data**

Threshold Limit Value: 800 PPM for the gas. None for the cartridges  
 Effects of Overexposure: The gas causes drowsiness and is an asphyxiant when exposed to in large quantities; however, cartridges are not a health hazard.  
 Emergency First Aid Procedures: Cartridges do not present a health hazard.

## Section VI - Reactivity Data

STABILITY      Unstable       Conditions to Avoid:  
                         Stable       High temperature or open flame

HAZARDOUS POLYMERIZATION      May Occur       Conditions to Avoid: None  
   Will Not Occur

## Section VII - Spill or Leak Procedures

Steps to be taken in Case Material is Released or Spilled:      N/A - Repack  
Waste Disposal Method:      Damaged cartridges are to be returned to the distributor or manufacturer. Do not puncture or incinerate.  
   Empty cartridges may be disposed of at suitable landfill.

## Section VIII - Special Protection Information

Respiratory Protection: None required

VENTILATION      Local Exhaust: As required      Special: None  
                         Mechanical (General): None      Other: None

Protective Gloves:      None for cartridges  
Eye Protection:      None  
Other Protective Equipment:      None

## Section IX - Special Precautions

Precautions to be Taken in Handling and Shipping:      Do not puncture cartridges and avoid excessive heat (>120°F).  
Other Precautions:      None

## Section X - MSDS Transport Information

US DOT  
Ground:      Shipping Name: Consumer Commodity  
                         Shipping Label: ORM-D

AIR / SEA  
UN Number:      2037  
Hazard Class:      2.1  
Shipping Name:      Receptacles, small, containing gas (gas cartridges) without a release device, non-refillable.

Revision Date: April 8, 2010  
Supersedes April 18, 2007



Safety Data Sheet dated 12/4/2010, version 6

#### 1. IDENTIFICATION OF THE PRODUCT AND OF THE COMPANY

Trade name: IC-REFL-MAT-BULK-THERMACELL BIG MAT  
Trade code: ZSDS10155  
Product type and use: Solid insecticide  
Company:  
ZOBELE HOLDING S.p.A  
Via Fersina 4  
38123 - Trento (Italy)  
Emergency telephone number of the company and/or of an authorised advisory centre:  
ZOBELE HOLDING S.p.A - Phone n.0461/303700 (Working hours)  
Competent person responsible for the safety data sheet:  
fabrizio.giorgione@zobe.com

#### 2. HAZARDS IDENTIFICATION

Properties / Symbols:  
N Dangerous for the environment  
R Phrases:  
R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

#### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous components within the meaning of EEC directive 67/548 and corresponding classification:

22 % d-Allethrin;(Pynamin forte); (RS)-3-allyl-2-methyl-4-oxocyclopent-2-enyl  
(1R)-cis,trans-2,2-dimethyl-3-(2-methylprop-1-enyl)cyclopropanecarboxylate  
CAS: 231937-89-6 EC: 209-542-4  
Xn,N; R20/22-50-53

8.4 % Isopar M; Distillates (petroleum), hydrotreated light  
N.67/548/CEE: 649-422-00-2 CAS: 64742-47-8 EC: 265-149-8  
Xn; R65-66

#### 4. FIRST AID MEASURES

Contact with skin:  
Wash with plenty of water and soap.  
Contact with eyes:  
Wash immediately with water for at least 10 minutes.  
Swallowing:  
Induce vomiting. SEEK A MEDICAL EXAMINATION IMMEDIATELY and present the safety-data sheet.  
A suspension of activated charcoal in water, or liquid paraffin may be administered.  
Inhalation:  
Ventilate the premises. The patient is to be removed immediately from the contaminated premises and made to rest in a well ventilated area. Should the patient feel unwell, OBTAIN MEDICAL ATTENTION.

#### 5. FIRE-FIGHTING MEASURES

Recommended extinguishers:

Water, CO<sub>2</sub>, Foam, Chemical powders, according to the materials involved in the fire.

Extinguishers not to be used:

None in particular.

Risks arising from combustion:

Avoid inhaling the fumes.

Protective equipment:

Use protection for the respiratory tract.

#### 6. ACCIDENTAL RELEASE MEASURES

Measures for personal safety:

Use gloves and protective clothing.

Environmental measures:

Limit leakages with earth or sand.

If the product has escaped into a water course, into the drainage system, or has contaminated the ground or vegetation, notify the competent authorities.

Cleaning methods:

If the product is in a liquid form, stop it from entering the drainage system.

Recover the product for re-use if possible, or for elimination. The product might, where appropriate, be absorbed by inert material.

After the product has been recovered, rinse the area and materials involved with water.

#### 7. HANDLING AND STORAGE

Handling precautions:

Avoid contact and inhalation of the vapours. See, too, paragraph 8 below.

Do not eat or drink while working.

Incompatible materials:

None in particular.

Storage conditions:

Instructions as regards storage premises:

Adequately ventilated premises.

#### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Precautionary measures:

Give adequate ventilation to the premises where the product is stored and/or handled.

Respiratory protection:

Not needed for normal use.

Protection for hands:

Not needed for normal use.

Eye protection:

Not needed for normal use.

Protection for skin:

No special precaution must be adopted for normal use.

Exposure limit(s) (ACGIH):

None.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and colour:	Blue cardboard insecticide mat weighing about 2200mg
Odour:	Characteristic
pH:	N.A.
Melting point:	N.A.
Boiling point:	N.A.
Flash point:	N.A.
Solid/gas flammability:	N.A.
Explosive properties:	N.A.
Oxidizing properties:	N.A.
Vapour pressure:	N.A.
Relative density:	N.A.
Solubility in water:	Partially miscible
Lipid solubility:	Partially miscible
Partition c. (n-octanol/H <sub>2</sub> O):	N.A.
Vapour density:	N.A.

### 10. STABILITY AND REACTIVITY

Conditions to avoid:  
Stable under normal conditions.

Substances to avoid:  
None in particular.

Hazardous decomposition products:  
None.

### 11. TOXICOLOGICAL INFORMATION

The concentration of each substance should be borne in mind in assessing the toxicological effects deriving from the preparation.

Set out below is the toxicological information relating to the main substances in the preparation.

d-Allethrin;(Pynamin forte); (RS)-3-allyl-2-methyl-4-oxocyclopent-2-enyl  
(1R)-cis,trans-2,2-dimethyl-3-(2-methylprop-1-enyl)cyclopropanecarboxylate

EYE RBT Non-irritant

IHL RAT LC50 >3,875 mg/l

ORL RAT LD50 900 mg/Kg

SKN GPG Non-sensitiser

SKN RBT Non-irritant

SKN RBT LD50 2260 mg/Kg

Isopar M; Distillates (petroleum), hydrotreated light

Acute:

Inhalation: Vapor concentrations above recommended exposure levels may be irritating to the eyes and the respiratory tract, may cause headaches and dizziness, could be anesthetic and may have other central nervous system effects.

Skin Contact:

Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.

low order of toxicity.

Eye Contact: Will cause eye discomfort, but will not injure eye tissue.



**ZOBELE**  
GROUP

**Symbols:**

N Dangerous for the environment

**R Phrases:**

R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**S Phrases:**

S2 Keep out of the reach of children.

S29 Do not empty into drains.

S61 Avoid release to the environment. Refer to special instructions/Safety data sheets.

Where applicable, refer to the following regulatory provisions :

Directive 82/501/EEC ('Activities linked to risks of serious accidents') and subsequent amendments.

Regulation (EC) nr 648/2004 (detergents).

1999/13/EC (VOC directive)

## 16. OTHER INFORMATION

Text of R phrases referred to under heading 3:

R20/22 Harmful by inhalation and if swallowed.

R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R65 Harmful: may cause lung damage if swallowed.

R66 Repeated exposure may cause skin dryness or cracking.

Main bibliographic sources:

ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre, Commission of the European Communities

SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van Nostrand Reinold

ACGIH - Threshold Limit Values - 2004 edition

The information contained herein is based on our state of knowledge at the above-specified date.

It refers solely to the product indicated and constitutes no guarantee of particular quality.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This MSDS cancels and replaces any preceding release.