



## SAFETY DATA SHEET

### SECTION 1 : IDENTIFICATION

Product identifier used on the label:

Product Name: **Westco MMBI**

Other means of identification:

Product Description: Westco MMBI is non-discoloring, non-staining antioxidant for all rubbers.

Synonyms: 2H-benzimidazole-2-thione, 1,3-di-hydro-4(or 5)-methyl; 2-Mercapto-4(5)-methylbenzimidazole

Recommended use of the chemical and restrictions on use:

Product Use/Restriction: MMBI provides very good heat aging and flex protection when used in combination with Westco TMQ.

Chemical distributor, or other responsible party Name, address, and telephone number:

Distributor Name: Western Reserve Chemical Corporation

Address: 4837 Darrow Road  
Stow, OH 44224  
USA

General Phone Number: 330 650 2244

General Fax Number: 330 650 2255

Emergency phone number:

Emergency Phone Number: Chemtrec 1 800 424 9300 USA

Website: [www.wrchem.com](http://www.wrchem.com)

### SECTION 2 : HAZARD(S) IDENTIFICATION

Classification of the chemical in accordance with CFR 1910.1200(d)(f):

GHS Pictograms:



Signal Word: Warning

GHS Class: Acute Oral Toxicity Category 4,  
Acute Toxicity, Inhalation, Category 4,  
Aquatic Chronic, Category 1,  
Reproductive Toxicity, Category 2.  
Specific Target Organ Toxicity, Repeated Exposure, Category 2.  
Hazardous to the aquatic environment.

Hazard Statements: Suspected of damaging fertility or the unborn child .  
May cause damage to organs through prolonged or repeated exposure .  
Very toxic to aquatic life with long lasting effects.  
Harmful if swallowed.  
Harmful if inhaled.

Precautionary Statements: Obtain special instructions before use.  
Avoid release to the environment.  
Do not breathe dust or mist.  
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
Call a POISON CENTER or doctor/physician if you feel unwell.  
Store locked up.  
Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified that have been identified during the classification process:

2-mercaptotoluimidazole

Carcinogenicity: Conclusion/Summary: Not available.

Route of Exposure: Routes of entry anticipated: Oral, Dermal, Inhalation.

Eye: Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the eyes

Skin: No known significant effects or critical hazards.

Inhalation: Harmful if inhaled. Exposure to airborne concentrations above statutory or recommended exposure

limits may cause irritation of the nose, throat and lungs. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

<b>Ingestion:</b>	Harmful if swallowed.
<b>Chronic Health Effects:</b>	Potential chronic health effects:Not available. Conclusion/Summary :Not available. General:May cause damage to organs through prolonged or repeated exposure. Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation.
<b>Carcinogenicity:</b>	No known significant effects or critical hazards.
<b>Signs/Symptoms:</b>	Eye contact:Adverse symptoms may include the following: irritation redness  Inhalation:Adverse symptoms may include the following: respiratory tract irritation coughing reduced fetal weight increase in fetal deaths skeletal malformations  Skin contact:Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations  Ingestion:Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations

**Notes :** Fine dust clouds may form explosive mixtures with air. Handling and/or processing of this material may generate a dust which can cause mechanical irritation of the eyes, skin, nose and throat.

### SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

#### Mixtures:

<b>Chemical Name</b>	<b>CAS#</b>	<b>Ingredient Percent</b>	<b>EC Num.</b>
2-mercaptotoluimidazole	53988-10-6	100% by weight	

### SECTION 4 : FIRST AID MEASURES

#### Description of necessary measures:

<b>Eye Contact:</b>	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention following exposure or if feeling unwell.
<b>Skin Contact:</b>	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.
<b>Inhalation:</b>	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
<b>Ingestion:</b>	Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

#### Indication of immediate medical attention and special treatment needed:

<b>Note to Physicians:</b>	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.  Specific treatments:No specific treatment.  Protection of first-aiders :No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
<b>Most important symptoms and effects, both acute and delayed</b>	Potential acute health effects Eye contact:Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the eyes.  Inhalation:Harmful if inhaled. Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.  Skin contact:No known significant effects or critical hazards.  Ingestion: Harmful if swallowed.

## SECTION 5 : FIRE FIGHTING MEASURES

### Suitable and unsuitable extinguishing media:

**Suitable Extinguishing Media:** Use dry chemical powder.

**Unsuitable extinguishing media:** Do not use water jet.

### Special protective equipment and precautions for fire-fighters:

**Protective Equipment:** Special protective equipment for fire-fighters: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) will provide a basic level of protection for chemical incidents.

**Fire Fighting Instructions:** Special protective actions for fire-fighters: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

**Hazards from the substance or mixture** Fine dust clouds may form explosive mixtures with air. This material is very toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

## SECTION 6 : ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures:

**Personal Precautions:** For non-emergency personnel: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing dust. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders: If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

### Environmental precautions:

**Environmental Precautions:** Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

**Reference to other sections** See Section 1 for emergency contact information.  
See Section 8 for information on appropriate personal protective equipment.  
See Section 13 for additional waste treatment information.

## SECTION 7 : HANDLING and STORAGE

### Precautions for safe handling:

**Handling:** Protective measures: Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use.  
Avoid exposure during pregnancy.  
Do not handle until all safety precautions have been read and understood.  
Do not get in eyes or on skin or clothing.  
Do not breathe dust.  
Do not ingest.  
Avoid release to the environment.  
Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame).  
Prevent dust accumulation.  
Use only with adequate ventilation.  
Wear appropriate respirator when ventilation is inadequate.  
Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use.  
Electrical equipment and lighting should be protected to appropriate standards to prevent dust coming into contact with hot surfaces, sparks or other ignition sources. Take precautionary measures against electrostatic discharges.  
To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material.  
Empty containers retain product residue and can be hazardous.  
Do not reuse container.

**Hygiene Practices:** Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed.  
Workers should wash hands and face before eating, drinking and smoking.  
Remove contaminated clothing and protective equipment before entering eating areas.  
See also Section 8 for additional information on hygiene measures.

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.  
Appropriate techniques should be used to remove potentially contaminated clothing.  
Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

### Conditions for safe storage, including any incompatibilities:

**Storage:** Store in accordance with local regulations.  
Store in a segregated and approved area.  
Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for

use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Specific end use(s):

**Work Practices:**

Use this product with adequate ventilation.  
Handle in accordance with good industrial hygiene and safety practices.  
Safety showers and eye wash stations should be available.

## SECTION 8: EXPOSURE CONTROLS, PERSONAL PROTECTION

EXPOSURE GUIDELINES:

Appropriate engineering controls:

**Engineering Controls:**

Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.  
The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Individual protection measures:

**Eye/Face Protection:**

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields. If operating conditions cause high dust concentrations to be produced, use dust goggles.

**Skin Protection Description:**

Protective clothing such as coverall should be worn if contact with skin is expected..

**Hand Protection Description:**

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

**Respiratory Protection:**

Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.  
Recommended: Dust respirator.

**PPE Pictograms:**



**Environmental exposure controls**

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## SECTION 9 : PHYSICAL and CHEMICAL PROPERTIES

PHYSICAL AND CHEMICAL PROPERTIES:

**Physical State:**

Solid. [Powder.]

**Color:**

Off-white to light yellow.

**Odor:**

Not available.

**Odor Threshold:**

Not available.

**Boiling Point:**

Initial boiling point and boiling range: Not available.

**Melting Point:**

>250°C

**Density:**

Relative density: 1.33

**Solubility:**

Insoluble in the following materials: cold water.

**Vapor Density:**

Not available.

**Vapor Pressure:**

Not available.

**Evaporation Rate:**

Not available.

**pH:**

Not available.

**Flash Point:**

[Product does not sustain combustion.]

**Lower Flammable/Explosive Limit:**

Not available.

**Upper Flammable/Explosive Limit:**

Not available.

**Auto Ignition Temperature:**

Not available.

**Explosive Properties:**

Dust suspended in air in critical proportions and in the presence of an ignition source presents an explosion hazard. As with any dry material, pouring or allowing to free-fall or to be conveyed through chutes or pipes can accumulate and generate electrostatic sparks, potentially causing ignition of the material itself, or of any flammable materials which may come in contact with the material or its container.

**Dust Explosion Data**

P<sub>max</sub> (bar): 8

K<sub>st</sub> Value (bar m/s): 238

Classified as St2 class dust and considered very energetic.

**Oxidizing Properties:**

Not available.

**9.2. Other information:**

Other information

No additional information.

## SECTION 10 : STABILITY and REACTIVITY

Reactivity:

**Reactivity:** No specific test data related to reactivity available for this product or its ingredients.

Chemical Stability:

**Chemical Stability:** The product is stable

Conditions To Avoid:

**Conditions to Avoid:** Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Prevent dust accumulation.

Incompatible Materials:

**Incompatible Materials:** Reactive or incompatible with the following materials: Oxidizing materials

Hazardous Decomposition Products:

**Special Decomposition Products:** Under normal conditions of storage and use, hazardous decomposition products should not be produced.

**Possibility of hazardous reactions** Under normal conditions of storage and use, hazardous reactions will not occur.

## SECTION 11 : TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION:

2-mercaptotoluimidazole :

**Inhalation:** LC50 Inhalation Dusts and mists Rat >2.12 mg/l 4 hours

**Ingestion:** LD50 Oral Rat 340 mg/kg

**Sensitization:** Conclusion/Summary  
Skin: Not available.

**Mutagenicity:** Conclusion/Summary: Not available.

**Reproductive Toxicity:** Conclusion/Summary: The administration of a similar material to male and female rats at dose levels of up to 7500 ppm for a period of up to 47 days (which included mating period, gestation and early lactation phase) resulted in treatment-related toxic effects upon adults. This included effects upon mating performance, fertility and the parturition process. The "No Observed Adverse Effect Level" (NOAEL) for effects upon adults either general systemic effects or reproduction, could not be established.

**Teratogenicity:** Conclusion/Summary: Not available.

**Mutagenicity:** No known significant effects or critical hazards.

**Teratogenicity:** Suspected of damaging the unborn child.

## SECTION 12 : ECOLOGICAL INFORMATION

2-mercaptotoluimidazole :

Persistence and degradability:

**Biodegradation:** OECD 301C  
Result: 0 % - Not readily - 28 days  
Biodegradability: Not readily

Other adverse effects:

**Effect of Material On Aquatic Life:** Acute EC50 1.9 mg/l Daphnia 48 hours

Bioaccumulative potential:

**Bioaccumulation:** Not available.

Mobility in soil:

**Mobility In Environmental Media:** Soil/water partition coefficient (KOC): Not available.  
Mobility: Not available.

## SECTION 13 : DISPOSAL CONSIDERATIONS

Description of waste:

**Waste Disposal:** Waste generators must determine whether discarded material is to be classified as a hazardous waste. The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste: The classification of the product may meet the criteria for a hazardous waste.

**Packaging**

Methods of disposal: The generation of waste should be avoided or minimized wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions: This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

**RCRA Number:**

Product as purchased is considered a RCRA Hazardous Waste (P205) as listed 40CFR 261.3.

**Notes :**

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s)

## SECTION 14 : TRANSPORT INFORMATION

<b>DOT Shipping Name:</b>	Non regulated.
<b>DOT UN Number:</b>	Not Regulated.
<b>DOT Pictograms:</b>	
<b>IATA Shipping Name:</b>	Environmentally hazardous substance, solid, n.o.s (2-mercaptotoluimidazole)
<b>IATA UN Number:</b>	3077
<b>IATA Hazard Class:</b>	9
<b>IATA Packing Group:</b>	III
<b>IATA Pictograms:</b>	
<b>Canadian UN Number:</b>	Not Regulated.
<b>IMDG UN Number :</b>	3077
<b>IMDG Shipping Name :</b>	Environmentally hazardous substance, solid, n.o.s (2-mercaptotoluimidazole)
<b>IMDG Hazard Class :</b>	9
<b>IMDG Packing Group :</b>	III
<b>ADR UN Number:</b>	3077
<b>ADR Shipping Name :</b>	Environmentally hazardous substance, solid, n.o.s (2-mercaptotoluimidazole)
<b>ADR Hazard Class:</b>	9
<b>ADR Packing Group :</b>	III
<b>RID UN Number :</b>	3077
<b>RID Shipping Name :</b>	Environmentally hazardous substance, solid, n.o.s (2-mercaptotoluimidazole)
<b>RID Hazard Class :</b>	9
<b>RID Packing Group :</b>	III
<b>ICAO UN Number :</b>	3077
<b>ICAO Shipping Name:</b>	Environmentally hazardous substance, solid, n.o.s (2-mercaptotoluimidazole)
<b>ICAO Hazard Class :</b>	9
<b>ICAO Packing Group :</b>	III

## SECTION 15 : REGULATORY INFORMATION

Safety, health and environmental regulations specific for the product:

**2-mercaptotoluimidazole :**

<b>TSCA Inventory Status:</b>	All components of this product are listed in the TSCA inventory of Chemicals Substances.
<b>SARA:</b>	SARA Title III: Section 302: None found, Section 311/12: Immediate health hazard, Section 313: None
<b>CERCLA Section 302:</b>	If an accidental spill occurs, it is not subject to any special reporting under the requirements of the Comprehensive Environmental Response Compensation and Reauthorization Act. See Section 4 on Accidental Release.
<b>Risk Phrases:</b>	R62 - Possible risk of impaired fertility. R20/22 - Harmful by inhalation and if swallowed. R51/53 - Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. R48/22 - Harmful: danger of serious damage to health by prolonged exposure if swallowed.
<b>Safety Phrase:</b>	S 9 - Keep container in a well-ventilated place. S 3 - Keep in a cool place. S 1 - Keep locked up. S23 - Do not breathe gas/fumes/vapour/spray. S61 - Avoid release to the environment. Refer to special instructions/safety data sheets.

## SECTION 16 : ADDITIONAL INFORMATION

HMIS Ratings:

HMIS Health Hazard: 2  
HMIS Fire Hazard: 1  
HMIS Reactivity: 0  
HMIS Personal Protection: J

Health Hazard	2
Fire Hazard	1
Reactivity	0
Personal Protection	J

SDS Revision Date: September 22, 2015

Notes :

Important Note: This information relates to the specific product described herein and may not be valid for this material when used in combination with other raw materials. The information provided is without warranty regarding its accuracy or completeness. The information may not be valid under all conditions. The user has the final responsibility for determining the suitability of the product in a given application.

Copyright© 1996-2015 Actio Corporation. All Rights Reserved.