

## Material Safety Data Sheet

### 1. Product and company identification

Product code : RRMSF9223442  
Product name : GRAY US TEST  
Material uses : Printing.  
Manufacturer : Sun Chemical Corporation  
631 Central Avenue  
Carlstadt, NJ 07072  
  
In case of emergency : (800) 424-9300 (U.S.)  
(703) 527-3887 (International)  
  
Regulatory information : Canada: (905) 796-2222  
US: (201) 933-4500  
  
Other information : (513) 830-8500  
Date of revision : 5/27/2008.

### 2. Hazards identification

Physical state : Liquid.  
Color : Dark grey.  
OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).  
Emergency overview : WARNING !  
CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION.  
MAY CAUSE ALLERGIC RESPIRATORY REACTION.  
CONTAINS MATERIAL WHICH CAUSES DAMAGE TO THE FOLLOWING ORGANS:  
LUNGS, RESPIRATORY TRACT.  
Avoid contact with skin and clothing. Do not breathe vapor or mist. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling.  
  
Routes of entry : Dermal contact. Inhalation.  
Potential acute health effects  
Eyes : Irritating to eyes.  
Skin : Irritating to skin.  
Inhalation : Irritating to respiratory system. May cause sensitization by inhalation.  
Ingestion : No known significant effects or critical hazards.  
Carcinogenic effects : No known significant effects or critical hazards.  
Mutagenic effects : No known significant effects or critical hazards.  
Teratogenicity / Reproductive toxicity : No known significant effects or critical hazards.  
Medical conditions aggravated by over-exposure : Pre-existing respiratory disorders and disorders involving any other target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.  
See toxicological information (section 11)

## 2. Hazards identification

## 3. Composition/information on ingredients

### Hazardous Ingredients

Zinc Oxide

### CAS number

1314-13-2

### %

10 - 25

## 4. First aid measures

- Eye contact** : Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention.
- Skin contact** : 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.
- Inhalation** : Move exposed person to fresh air. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. Keep person warm and at rest. 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 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 the event of any complaints or symptoms, avoid further exposure.
- Ingestion** : Wash out mouth with water. Remove dentures if any. Move exposed person to fresh air. Keep person warm and at rest. 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. 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.
- 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.

## 5. Fire-fighting measures

- Flammability of the product** : In a fire or if heated, a pressure increase will occur and the container may burst.
- Products of combustion** : Decomposition products may include the following materials:  
carbon oxides  
metal oxide/oxides
- Extinguishing media**
- Suitable** : Use an extinguishing agent suitable for the surrounding fire.
- Not suitable** : None known.
- Special exposure hazards** : 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.
- 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.
- Flammability (OSHA criteria)** : IIIB
- Flash point** : Lowest known value: >93.3°C (200°F) (Closed cup)

## 6 . Accidental release measures

- Personal precautions** : 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. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).
- 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).
- Methods for cleaning up** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

## 7 . Handling and storage

- Handling** : Put on appropriate personal protective equipment (see section 8). 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. Persons with a history of asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. 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. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Storage** : Store in accordance with local regulations. 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. 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.

## 8 . Exposure controls/personal protection

Consult local authorities for acceptable exposure limits.

- Engineering measures** : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

### Personal protection

- Eyes** : 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.
- Skin** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory** : Use a properly fitted, air-purifying or air-fed 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.
- Hands** : 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.

## 8 . Exposure controls/personal protection

**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.

## 9 . Physical and chemical properties

**Physical state** : Liquid.  
**Color** : Dark grey.  
**Boiling/condensation point** : Lowest known value: 243°C (470°F)  
**Flash point** : Lowest known value: >93.3°C (200°F) (Closed cup)  
**VOC** : 3.27%  
**Density** : 0.829 g/cm<sup>3</sup> (6.918 lbs/gal)  
**Vapor density** : Highest known value: >1 (Air = 1) (Severely Hydrotreated Heavy Naphthenic Distillate).  
 Weighted average: 1.1 (Air = 1)  
**Evaporation rate** : Highest known value: <1 (Severely Hydrotreated Heavy Naphthenic Distillate) Weighted average: 0.9 compared with Butyl acetate.

## 10 . Stability and reactivity

**Stability and reactivity** : The product is stable.  
**Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.  
**Reactivity - Light** : Not applicable.

## 11 . Toxicological information

### Acute toxicity

Product/Ingredient name	Result	Species	Dose	Exposure
Zinc Oxide	LD Intratracheal	Rat	>4979 ug/kg	-
	LD Oral	Rat	>8437 mg/kg	-
	LD50	Rat	240 mg/kg	-
	Intraperitoneal			

**Conclusion/Summary** : No known significant effects or critical hazards.

### Chronic toxicity

**Conclusion/Summary** : No known significant effects or critical hazards.

### Carcinogenicity

**Conclusion/Summary** : No known significant effects or critical hazards.

### Classification

Product/Ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Zinc Oxide	A4	-	-	-	-	-

### Mutagenicity

**Conclusion/Summary** : No known significant effects or critical hazards.

### Teratogenicity

**Conclusion/Summary** : No known significant effects or critical hazards.

### Reproductive toxicity

**Conclusion/Summary** : No known significant effects or critical hazards.

## 12 . Ecological information

Environmental effects : No known significant effects or critical hazards.

### Aquatic ecotoxicity

Conclusion/Summary : Not available.

### Biodegradability

Conclusion/Summary : Not available.

Other adverse effects : No known significant effects or critical hazards.

## 13 . Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. 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. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Refer to protective measures listed in sections 7 and 8.

Empty containers or liners may retain some product residues.

## 14 . Transport information

Not regulated.

## 15 . Regulatory information

HCS Classification : Irritating material  
Sensitizing material  
Target organ effects

TSCA 8(b) inventory : Not determined.

U.S. Federal regulations : TSCA 4(a) dioxins/furanes testing: No products were found.  
TSCA 4(a) final testing order: No products were found.  
TSCA 4(a) final test rules: No products were found.  
TSCA 4(a) ITC priority list: No products were found.  
TSCA 4(a) proposed test rules: No products were found.  
TSCA 5(a)2 final significant rules: No products were found.  
TSCA 5(a)2 proposed significant rules: No products were found.  
TSCA 5(e) substance consent order: No products were found.  
TSCA 6 final risk management: No products were found.  
TSCA 6 proposed risk management: No products were found.  
TSCA 8(a) CAIR: No products were found.  
TSCA 8(a) chemical risk rules: No products were found.  
TSCA 8(a) dioxin/furan precursor: No products were found.  
TSCA 8(a) IUR: No products were found.  
TSCA 8(a) PAIR: No products were found.  
TSCA 8(c) calls for record of SAR: No products were found.  
TSCA 8(d) H and S data reporting: No products were found.  
TSCA 12(b) annual export notification: No products were found.  
TSCA 12(b) one-time export: No products were found.  
TSCA precursor chemical list: No products were found.  
TSCA commerce control list: No products were found.

## 15 . Regulatory information

SARA 302/304/311/312 extremely hazardous substances: No products were found.  
 SARA 302/304 emergency planning and notification: No products were found.  
 SARA 302/304/311/312 hazardous chemicals: Zinc Oxide  
 SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Zinc Oxide: Immediate (acute) health hazard, Delayed (chronic) health hazard  
 Clean Water Act (CWA) 307: Zinc Oxide  
 Clean Water Act (CWA) 311: No products were found.  
 Clean Air Act (CAA) 112 accidental release prevention: No products were found.  
 Clean Air Act (CAA) 112 regulated flammable substances: No products were found.  
 Clean Air Act (CAA) 112 regulated toxic substances: No products were found.

### SARA 313

	<u>Product name</u>	<u>CAS number</u>	<u>Concentration</u>
Supplier notification	: Barium / Zinc Compounds	1345-05-7	41.16
	Zinc Compounds	1314-13-2	24.5

SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

CONEG : In compliance.

### International lists

International lists : Australia Inventory (AICS): Not determined.  
 China inventory (IECSC): Not determined.  
 Korea inventory (KECI): Not determined.  
 Philippines inventory (PICCS): Not determined.  
 Japan inventory (ENCS): Not determined.  
 Canada inventory: All components are listed or exempted.  
 Europe inventory: Not determined.

New Zealand Inventory (HASNO) : Not determined.

## 16 . Other information

Label requirements : CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. MAY CAUSE ALLERGIC RESPIRATORY REACTION. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE.

Hazardous Material Information System (U.S.A.) :

Health	*	1
Fire hazard		1
Reactivity		0

Personal protection

Version : 1

### Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.