# Material Safety Data Sheet

**Date of issue** 19 December 2014
**Version** 15

## 1 . Product and company identification

**Product name** : TRACE RED OXIDE
**Code** : T440
**Supplier** : PPG Industries, Inc.
One PPG Place,
Pittsburgh, PA 15272
**Emergency telephone number** : (412) 434-4515 (U.S.)
(514) 645-1320 (Canada)
01-800-00-21-400 (Mexico)
**Technical Phone Number** : 1-800-647-6050

## 2 . Hazards identification

**Emergency overview** : WARNING!

HARMFUL OR FATAL IF SWALLOWED. HARMFUL IF ABSORBED THROUGH SKIN. CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. MAY BE HARMFUL IF INHALED. SANDING AND GRINDING DUSTS MAY BE HARMFUL IF INHALED. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE.

Do not swallow. Do not get in eyes or on skin or clothing. Avoid breathing vapor or mist. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

**Potential acute health effects**

**Inhalation** : May be harmful if inhaled. Irritating to respiratory system. Can irritate eyes, nose, mouth and throat.
**Ingestion** : Harmful or fatal if swallowed.
**Skin** : Toxic in contact with skin. Irritating to skin.
**Eyes** : Irritating to eyes.

**Over-exposure signs/symptoms**

Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone.

**Medical conditions aggravated by over-exposure** : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

**This Material Safety Data Sheet has been prepared in accordance with Canada's Workplace Hazardous Materials Information System (WHMIS) and the OSHA Hazard Communication Standard (29 CFR 1910.1200).**

**See toxicological information (Section 11)**

## 3 . Composition/information on ingredients

| Name | CAS number | % |
|---|---|---|
| 2-butoxyethanol | 111-76-2 | 5 - 10 |
| diiron trioxide | 1309-37-1 | 0.5 - 1.5 |
| ethanediol | 107-21-1 | 0.1 - 1 |

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.**

## 4 . First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Material Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

**Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.

**Skin contact** : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

**Inhalation** : Remove to fresh air. 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.

**Ingestion** : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

**Notes to physician** : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

## 5 . Fire-fighting measures

**Flammability of the product** : In a fire or if heated, a pressure increase will occur and the container may burst.

**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.

**Hazardous combustion products** : Decomposition products may include the following materials:
carbon oxides
metal oxide/oxides

**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.

## 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).

# 6 . Accidental release measures

**Large spill** : 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.

**Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

# 7 . Handling and storage

**Handling** : Materials such as cleaning rags, paper wipes and protective clothing, which are contaminated with the product may spontaneously self-ignite. To avoid the risks of fires, all contaminated materials should be placed in a metal container filled with water and sealed. Contaminated materials should be removed from the workplace at the end of each working day and be stored outside. 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. Do not swallow. Do not get in eyes or on skin or clothing. Avoid breathing vapor or mist. 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. If this material is part of a multiple component system, read the Material Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts.

**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. Do not store below the following temperature: 32F / 0C.

# 8 . Exposure controls/personal protection

| Name | Result | ACGIH | OSHA | Ontario | Mexico | PPG |
|---|---|---|---|---|---|---|
| 2-butoxyethanol | TWA | 20 ppm | 50 ppm S | 20 ppm S | 26 ppm S | Not established |
| | STEL | Not established | Not established | Not established | 75 ppm S | Not established |
| diiron trioxide | TWA | 5 mg/m³ R | 10 mg/m³ | 5 mg/m³ R | 5 mg/m³ (as Fe) | Not established |
| | STEL | Not established | Not established | Not established | 10 mg/m³ (as Fe) | Not established |
| ethanediol | STEL | 100 mg/m³ C | Not established | 100 mg/m³ C | 100 mg/m³ C | Not established |

**Key to abbreviations**

| | | | | | |
|---|---|---|---|---|---|
| A | = | Acceptable Maximum Peak | S | = | Potential skin absorption |
| ACGIH | = | American Conference of Governmental Industrial Hygienists. | SR | = | Respiratory sensitization |
| C | = | Ceiling Limit | SS | = | Skin sensitization |
| F | = | Fume | STEL | = | Short term Exposure limit values |
| IPEL | = | Internal Permissible Exposure Limit | TD | = | Total dust |

# 8 . Exposure controls/personal protection

OSHA = Occupational Safety and Health Administration.
R = Respirable
Z = OSHA 29CFR 1910.1200 Subpart Z - Toxic and Hazardous Substances
TLV = Threshold Limit Value
TWA = Time Weighted Average

**Consult local authorities for acceptable exposure limits.**

**Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

**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.

**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.

**Personal protection**

**Eyes** : Safety glasses with side shields.

**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. 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.

**Gloves** : For prolonged or repeated handling, use the following type of gloves:

Recommended: butyl rubber

**Respiratory** : If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. 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.

**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.

**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.

# 9 . Physical and chemical properties

**Physical state** : Liquid.

**Flash point** : Closed cup: >93.33°C (>200°F)

**Material supports combustion.** : Yes.

**Color** : Red.

**Odor** : Not available.

**pH** : Not available.

**Boiling/condensation point** : >37.78°C (>100°F)

# 9 . Physical and chemical properties

**Melting/freezing point** : Not available.
**Specific gravity** : 1
**Density ( lbs / gal )** : 8.35
**Vapor pressure** : 2.3 kPa (17.1 mm Hg) [room temperature]
**Vapor density** : Not available.
**Volatility** : 84% (v/v), 82.8% (w/w)
**Evaporation rate** : 0.33 (butyl acetate = 1)
**Solubility** : Insoluble in the following materials: cold water.
**Partition coefficient: n-octanol/water** : Not available.
**% Solid. (w/w)** : 17.2

# 10 . Stability and reactivity

**Stability** : Stable under recommended storage and handling conditions (see Section 7).
**Conditions to avoid** : No specific data.
**Materials to avoid** : Reactive or incompatible with the following materials:,acids,oxidizing materials,strong alkalis
**Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.
**Hazardous polymerization** : Under normal conditions of storage and use, hazardous polymerization will not occur.

# 11 . Toxicological information

## Acute toxicity

| Product/ingredient name | Result | Species | Dose | Exposure |
|---|---|---|---|---|
| 2-butoxyethanol | LD50 Oral | Rat | 250 mg/kg | - |
| | LD50 Dermal | Rabbit | 220 mg/kg | - |
| | LC50 Inhalation Vapor | Rat | 450 ppm | 4 hours |
| diiron trioxide | LD50 Oral | Rat | 10 g/kg | - |
| ethanediol | LD50 Oral | Rat | 4700 mg/kg | - |
| | LD50 Dermal | Rabbit | 9.53 g/kg | - |

**Conclusion/Summary** : Not available.

## Chronic toxicity

**Conclusion/Summary** : Not available.

**Target organs** : Contains material which causes damage to the following organs: brain.
Contains material which may cause damage to the following organs: blood, kidneys, lungs, liver, spleen, lymphatic system, upper respiratory tract, skin, bone marrow, central nervous system (CNS), eye, lens or cornea.

## Carcinogenicity

### Classification

| Product/ingredient name | ACGIH | IARC | NTP |
|---|---|---|---|
| 2-butoxyethanol | A3 | 3 | - |
| diiron trioxide | A4 | 3 | - |
| ethanediol | A4 | - | - |

## 11 . Toxicological information

**Carcinogen Classification code:** ACGIH: A1, A2, A3, A4, A5
IARC: 1, 2A, 2B, 3, 4
NTP: Proven, Possible
Not listed or regulated as a carcinogen: -

**Teratogenicity** : Contains material which may cause birth defects, based on animal data.

## 12 . Ecological information

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

## 13 . Disposal considerations

**Waste disposal** : 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. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. 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.

**Disposal should be in accordance with applicable regional, national and local laws and regulations.**

**Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees. Section 6. Accidental release measures**

## 14. Transport information

| | DOT | TDG | Mexico | IMDG |
|---|---|---|---|---|
| **UN number** | Not regulated. | Not regulated. | Not regulated. | Not regulated. |
| **UN proper shipping name** | - | - | - | - |
| **Transport hazard class(es)** | - | - | - | - |
| **Packing group** | - | - | - | - |
| **Environmental hazards** | No. | No. | No. | No. |
| **Marine pollutant substances** | Not applicable. | Not applicable. | Not applicable. | Not applicable. |

**Additional information**

**DOT** : None identified.
**TDG** : None identified.
**Mexico** : None identified.
**IMDG** : None identified.

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

## 14. Transport information

## 15 . Regulatory information

**United States inventory (TSCA 8b)** : All components are listed or exempted.
**Australia inventory (AICS)** : All components are listed or exempted.
**Canada inventory ( DSL )** : All components are listed or exempted.
**China inventory (IECSC)** : All components are listed or exempted.
**Europe inventory ( REACH )** : Please contact your supplier for information on the inventory status of this material.
**Japan inventory (ENCS)** : At least one component is not listed.
**Korea inventory (KECI)** : All components are listed or exempted.
**New Zealand ( NZIoC )** : All components are listed or exempted.
**Philippines inventory (PICCS)** : At least one component is not listed.

**United States**

**U.S. Federal regulations** :

**SARA 302/304**: No products were found.

**SARA 311/312 SDS Distribution - Chemical Inventory - Hazard Identification:**

| Chemical name | CAS # | Acute | Chronic | Fire | Reactive | Pressure |
|---|---|---|---|---|---|---|
| 2-butoxyethanol | 111-76-2 | Y | N | Y | N | N |
| diiron trioxide | 1309-37-1 | N | N | N | N | N |
| ethanediol | 107-21-1 | Y | Y | N | N | N |
| | Product as-supplied : | Y | Y | N | N | N |

| SARA 313 | Chemical name | CAS number | Concentration |
|---|---|---|---|
| Supplier notification : | 2-butoxyethanol | 111-76-2 | 5 - 10 |

**Additional environmental information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.**

**Canada**

**WHMIS (Canada)** : Class D-1A: Material causing immediate and serious toxic effects (Very toxic). Class D-1B: Material causing immediate and serious toxic effects (Toxic). Class D-2A: Material causing other toxic effects (Very toxic). Class D-2B: Material causing other toxic effects (Toxic).

**Mexico**

**Classification**

**Flammability** : 1 **Health** : 3 **Reactivity** : 0

## 16 . Other information

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

**Health** : 3 * **Flammability** : 1 **Physical hazards** : 0

**( * ) - Chronic effects**

**Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.**

**The customer is responsible for determining the PPE code for this material.**

**National Fire Protection Association (U.S.A.)**

**Health** : 3 **Flammability** : 1 **Instability** : 0

# 16 . Other information

**Date of previous issue** : **6/23/2014.**

**Organization that prepared the MSDS** : EHS

**Indicates information that has changed from previously issued version.**

**Disclaimer**

*The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.*