

SYNTHETIC IRON OXIDE RED 1117

Version	Revision Date:	SDS Number:	Date of last issue: 04/26/2017
2.1	03/14/2018	40000002716	Date of first issue: 11/03/2016

SECTION 1. IDENTIFICATION

Product name : SYNTHETIC IRON OXIDE RED 1117

Manufacturer or supplier's details

Company name of supplier : Venator Americas LLC
Address : 10001 Woodloch Forest Drive
The Woodlands,
TX 77380
United States of America (USA)
Telephone : (001) 844 831 6720
Telefax : (001) 281 465 6731

E-mail address of person responsible for the SDS : msds@venatorcorp.com

Emergency telephone number : USA & Canada: +1-800-424-9300 Other Americas: +1-703-741-5970 [CCN 820025]

Recommended use of the chemical and restrictions on use

Recommended use : Industrial use
Colouring agents, pigments

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with 29 CFR 1910.1200

Not a hazardous substance or mixture.

GHS label elements

Not a hazardous substance or mixture.

Other hazards

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

Substance / Mixture : Mixture

Hazardous components

Chemical name	CAS-No.	Concentration (% w/w)
diiiron trioxide	1309-37-1	95 - 100
limestone	1317-65-3	1 - 3

The specific chemical identity and/or exact percentage (concentration) of composition may be withheld as a trade secret.

SYNTHETIC IRON OXIDE RED 1117

Version Revision Date: SDS Number: Date of last issue: 04/26/2017
2.1 03/14/2018 400000002716 Date of first issue: 11/03/2016

SECTION 4. FIRST AID MEASURES

- General advice : Consult a physician.
- If inhaled : If breathed in, move person into fresh air.
Get medical attention if symptoms occur.
- In case of skin contact : Wash off with soap and water.
Call a physician if irritation develops or persists.
- In case of eye contact : Rinse with water.
If eye irritation persists, consult a specialist.
- If swallowed : Rinse mouth with water.
If material has been swallowed and the exposed person is conscious, give small quantities of water to drink.
DO NOT induce vomiting unless directed to do so by a physician or poison control center.
If symptoms persist, call a physician.
- Most important symptoms and effects, both acute and delayed : Dust contact with the eyes can lead to mechanical irritation.
Inhalation of dust may cause shortness of breath, tightness of the chest, a sore throat and cough.
The product is not irritant but as with all fine powders can absorb moisture and natural oils from the surface of the skin during prolonged exposure.
Individuals with sensitive skin may experience skin drying on prolonged or repeated exposure.
- Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training.
- Notes to physician : No specific measures identified.
-

SECTION 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Water spray
Foam
Dry powder
Carbon dioxide (CO₂)
- Unsuitable extinguishing media : High volume water jet
- Specific hazards during firefighting : Cool closed containers exposed to fire with water spray.
- Hazardous combustion products : No hazardous combustion products are known
- Specific extinguishing : Use extinguishing measures that are appropriate to local
-

SYNTHETIC IRON OXIDE RED 1117

Version	Revision Date:	SDS Number:	Date of last issue: 04/26/2017
2.1	03/14/2018	40000002716	Date of first issue: 11/03/2016

methods : circumstances and the surrounding environment.

Further information : Standard procedure for chemical fires.

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
Ensure adequate ventilation.
Avoid dust formation.
Remove all sources of ignition.
Never return spills in original containers for re-use.
Treat recovered material as described in the section "Disposal considerations".
For disposal considerations see section 13.

Environmental precautions : No special environmental precautions required.
Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up : Keep in suitable, closed containers for disposal.
Sweep up or vacuum up spillage and collect in suitable container for disposal.
Avoid creating dusty conditions and prevent wind dispersal.
Clean contaminated floors and objects thoroughly while observing environmental regulations.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion : Avoid dust formation.
Provide appropriate exhaust ventilation at places where dust is formed.

Advice on safe handling : Minimize dust generation and accumulation.
Avoid formation of respirable particles.
Avoid inhalation, ingestion and contact with skin and eyes.
Avoid exposure - obtain special instructions before use.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Provide sufficient air exchange and/or exhaust in work rooms.
Dispose of rinse water in accordance with local and national regulations.

Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.
Observe label precautions.
Electrical installations / working materials must comply with the technological safety standards.

Further information on : Keep in a dry place.

SYNTHETIC IRON OXIDE RED 1117

Version 2.1 Revision Date: 03/14/2018 SDS Number: 400000002716 Date of last issue: 04/26/2017
 Date of first issue: 11/03/2016

storage stability

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
diiron trioxide	1309-37-1	TWA (Respirable fraction)	5 mg/m ³	ACGIH
		TWA (Fumes)	10 mg/m ³	OSHA Z-1
		TWA (total dust)	15 mg/m ³	OSHA Z-1
		TWA (respirable fraction)	5 mg/m ³	OSHA Z-1
limestone	1317-65-3	TWA (total dust)	15 mg/m ³	OSHA Z-1
		TWA (respirable fraction)	5 mg/m ³	OSHA Z-1

Engineering measures : Maintain air concentrations below occupational exposure standards.

Personal protective equipment

Respiratory protection : Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines

Hand protection
Directive : Use gloves approved to relevant standards e.g. EN 374 (Europe), F739 (US).

Eye protection : Safety glasses
Ensure that eyewash stations and safety showers are close to the workstation location.

Skin and body protection : 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.

Protective measures : Wear suitable protective equipment.

Hygiene measures : Wash hands before breaks and immediately after handling the product.
Remove contaminated clothing and protective equipment

SYNTHETIC IRON OXIDE RED 1117

Version	Revision Date:	SDS Number:	Date of last issue: 04/26/2017
2.1	03/14/2018	400000002716	Date of first issue: 11/03/2016

before entering eating areas.
Barrier creams may help to protect the exposed areas of skin, they should however not be applied once exposure has occurred.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: powder
Colour	: red brown, red
Odour	: odourless
Odour Threshold	: No data available
pH	: 4 - 8 Concentration: 10 %
	: > 1,000 °C
Boiling point	No data is available on the product itself.
Flash point	: No data is available on the product itself.
Evaporation rate	: No data is available on the product itself.
Flammability (solid, gas)	: No data is available on the product itself.
Flammability (liquids)	: No data is available on the product itself.
Upper explosion limit / Upper flammability limit	: No data is available on the product itself.
Lower explosion limit / Lower flammability limit	: No data is available on the product itself.
Vapour pressure	: No data is available on the product itself.
Relative vapour density	: No data is available on the product itself.
Relative density	: No data is available on the product itself.
Density	: No data is available on the product itself.
Solubility(ies)	
Water solubility	: insoluble
Solubility in other solvents	: No data is available on the product itself.
Partition coefficient: n-octanol/water	: No data is available on the product itself.
Auto-ignition temperature	: No data is available on the product itself.

SYNTHETIC IRON OXIDE RED 1117

Version	Revision Date:	SDS Number:	Date of last issue: 04/26/2017
2.1	03/14/2018	400000002716	Date of first issue: 11/03/2016

Thermal decomposition : No data is available on the product itself.

Self-Accelerating decomposition temperature (SADT) : No data is available on the product itself.

Viscosity : No data is available on the product itself.

Explosive properties : No data is available on the product itself.

Oxidizing properties : No data is available on the product itself.

Particle size : No data is available on the product itself.

SECTION 10. STABILITY AND REACTIVITY

Reactivity : No dangerous reaction known under conditions of normal use.

Chemical stability : No decomposition if stored and applied as directed.

Possibility of hazardous reactions : Stable under recommended storage conditions.
No hazards to be specially mentioned.

Conditions to avoid : No data available

Incompatible materials : peroxides, e.g. hydrogen peroxide
aluminum dust
calcium hypochlorite
hydrazine
Ethylene oxide
caesium carbide

Hazardous decomposition products : No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : No data is available on the product itself.

Acute toxicity**Components:**

diiron trioxide:

Acute oral toxicityComponents : LD50 (Rat, male and female): > 5,000 mg/kg
Method: EC Directive 92/69/EEC B.1 Acute Toxicity (Oral)

LD50 (Rat, male): > 10,000 mg/kg
Method: OECD Test Guideline 401

limestone:

Acute oral toxicityComponents : LD50 (Rat): 6,450 mg/kg

SYNTHETIC IRON OXIDE RED 1117

Version 2.1 Revision Date: 03/14/2018 SDS Number: 400000002716 Date of last issue: 04/26/2017
Date of first issue: 11/03/2016

Components:

diiron trioxide:
Acute inhalation toxicity : LC50 (Rat, male and female): 5 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : No data available

Acute toxicity (other routes of administration) : No data available

Skin corrosion/irritation**Components:**

diiron trioxide:
Species: Rabbit
Exposure time: 4 h
Assessment: No skin irritation
Method: OECD Test Guideline 404
Result: No skin irritation

Serious eye damage/eye irritation**Components:**

diiron trioxide:
Species: Rabbit
Result: No eye irritation
Exposure time: 24 h
Assessment: No eye irritation
Method: OECD Test Guideline 405

limestone:
Species: Rabbit
Result: Mechanical irritation of the eyes is possible.
Assessment: No eye irritation

Respiratory or skin sensitisation**Components:**

diiron trioxide:
Exposure routes: Dermal
Species: No information available.
Assessment: Did not cause sensitisation on laboratory animals.
Method: Other guidelines
Result: Does not cause skin sensitisation.

Exposure routes: Skin
Species: Mouse
Method: OECD Test Guideline 429
Result: Does not cause skin sensitisation.

SYNTHETIC IRON OXIDE RED 1117

Version 2.1 Revision Date: 03/14/2018 SDS Number: 400000002716 Date of last issue: 04/26/2017
 Date of first issue: 11/03/2016

limestone:
 Exposure routes: Skin
 Species: Guinea pig
 Method: OECD Test Guideline 406
 Result: Does not cause skin sensitisation.

Assessment: No data available

Germ cell mutagenicity**Components:**

diiron trioxide:
 Genotoxicity in vitro : Test Type: Ames test
 Test system: Salmonella typhimurium
 Concentration: 8 - 40 - 200 - 1000 - 5000 µg/
 Metabolic activation: with and without metabolic activation
 Method: reverse mutation assay
 Result: negative

Test Type: Chromosome aberration test in vitro
 Test system: Chinese hamster lung cells
 Concentration: 0, 6.25, 12.5 and 25 µg/ml
 Metabolic activation: with and without metabolic activation
 Method: OECD Test Guideline 473
 Result: negative

Components:

diiron trioxide:
 Genotoxicity in vivo : Test Type: in vivo assay
 Species: Rat (female)
 Dose: 0, 500, 1000, or 2000 mg/kg bw
 Result: negative

Test Type: in vivo assay
 Species: Rat (male)
 Dose: 3.75 mg/kg bw
 Result: negative

Carcinogenicity**Components:**

diiron trioxide:
 Species: Rat, (male and female)
 Application Route: Intraperitoneal injection
 Exposure time: 790 - 914 days
 Result: negative

Species: Rat, (male and female)
 Application Route: Intraperitoneal injection
 Exposure time: 798 days
 Result: negative

Carcinogenicity - Assessment : No data available

SYNTHETIC IRON OXIDE RED 1117

Version	Revision Date:	SDS Number:	Date of last issue: 04/26/2017
2.1	03/14/2018	400000002716	Date of first issue: 11/03/2016

IARC No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Effects on fertility : No data available

Effects on foetal development : No data available

Reproductive toxicity - Assessment : No data available

STOT - single exposure

No data available

STOT - repeated exposure

No data available

Repeated dose toxicity**Components:**

diiron trioxide:
Species: Rat, male
>= 30 mg/m³
Application Route: inhalation (dust/mist/fume)
Test atmosphere: dust/mist
Exposure time: 5 days

Repeated dose toxicity - Assessment : No data available

Aspiration toxicity

No data available

Experience with human exposure

General Information: No data available

Inhalation: No data available

Skin contact: No data available

SYNTHETIC IRON OXIDE RED 1117

Version 2.1 Revision Date: 03/14/2018 SDS Number: 40000002716 Date of last issue: 04/26/2017
Date of first issue: 11/03/2016

Eye contact: No data available

Ingestion: No data available

Toxicology, Metabolism, Distribution

No data available

Neurological effects

No data available

Further information

Ingestion: No data available

SECTION 12. ECOLOGICAL INFORMATION**Ecotoxicity****Components:**

diiron trioxide:
Toxicity to fish : EC50 (Brachydanio rerio (zebrafish)): > 50,000 mg/l
Exposure time: 96 h
Test Type: static test

limestone:
Toxicity to fish : LC50: > 56,000 mg/l
Exposure time: 96 h

Components:

diiron trioxide:
Toxicity to daphnia and other : EC50: > 100 mg/l
aquatic invertebrates Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202

Components:

diiron trioxide:
Toxicity to algae : EC50 (Other): > 100 mg/l

M-Factor (Acute aquatic : No data available
toxicity)

Toxicity to fish (Chronic : No data available
toxicity)

SYNTHETIC IRON OXIDE RED 1117

Version Revision Date: SDS Number: Date of last issue: 04/26/2017
2.1 03/14/2018 400000002716 Date of first issue: 11/03/2016

Components:

limestone:

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : EC50 (Daphnia magna (Water flea)): > 350 mg/l
Exposure time: 125 d
Test Type: semi-static test
Test substance: Fresh water

M-Factor (Chronic aquatic toxicity) : No data available

Components:

diiron trioxide:

Toxicity to microorganisms : EC50 (activated sludge): > 10,000 mg/l
Exposure time: 3 h
Test Type: static test
Method: ISO 8192

Toxicity to soil dwelling organisms : No data available

Plant toxicity : No data available

Sediment toxicity : No data available

Toxicity to terrestrial organisms : No data available

Ecotoxicology Assessment Acute aquatic toxicity : No data available

Chronic aquatic toxicity : No data available

Toxicity Data on Soil : No data available

Other organisms relevant to the environment : No data available

Persistence and degradability

Biodegradability - Product : Result: Not readily biodegradable.

Components:

diiron trioxide:

Biochemical Oxygen Demand (BOD) : 0 mgO₂/g

Components:

diiron trioxide:

Chemical Oxygen Demand (COD) : 0 mgO₂/g

BOD/COD : No data available

ThOD : No data available

SYNTHETIC IRON OXIDE RED 1117

Version 2.1 Revision Date: 03/14/2018 SDS Number: 40000002716 Date of last issue: 04/26/2017
Date of first issue: 11/03/2016

BOD/ThOD : No data available

Dissolved organic carbon (DOC) : No data available

Physico-chemical removability : No data available

Stability in water : No data available

Photodegradation : No data available

Impact on Sewage Treatment : No data available

Bioaccumulative potential

Bioaccumulation - Product : Remarks: Bioaccumulation is unlikely.

Components:

limestone:

Partition coefficient: n-octanol/water : log Pow: < 1
Method: No information available.

Mobility in soil

Mobility : No data available

Distribution among environmental compartments : No data available

Stability in soil : No data available

Other adverse effects

Environmental fate and pathways : No data available

Results of PBT and vPvB assessment - Product : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Endocrine disrupting potential : No data available

Adsorbed organic bound halogens (AOX) : No data available

Hazardous to the ozone layer

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the

SYNTHETIC IRON OXIDE RED 1117

Version	Revision Date:	SDS Number:	Date of last issue: 04/26/2017
2.1	03/14/2018	400000002716	Date of first issue: 11/03/2016

U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information : No data available

Global warming potential (GWP) : No data available

SECTION 13. DISPOSAL CONSIDERATIONS**Disposal methods**

Waste from residues : Do not dispose of waste into sewer.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Dispose of wastes in an approved waste disposal facility.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION**International Regulations****IATA**

Not regulated as dangerous goods

IMDG

Not regulated as dangerous goods

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National Regulations**DOT Classification**

Not regulated as dangerous goods

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

SYNTHETIC IRON OXIDE RED 1117

Version	Revision Date:	SDS Number:	Date of last issue: 04/26/2017
2.1	03/14/2018	400000002716	Date of first issue: 11/03/2016

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

California Prop. 65

WARNING! This product can expose you to chemicals, as trace impurities and not intentionally added, known to the State of California to cause cancer (C), birth defects (M) or other reproductive (R) harm. For more information, go to www.P65Warnings.ca.gov.

The components of this product are reported in the following inventories:

CH INV	: The formulation contains substances listed on the Swiss Inventory, On the inventory, or in compliance with the inventory
DSL	: This product contains one or several components listed in the Canadian NDSL.
AICS	: On the inventory, or in compliance with the inventory
NZIoC	: On the inventory, or in compliance with the inventory
ENCS	: On the inventory, or in compliance with the inventory
KECI	: On the inventory, or in compliance with the inventory
PICCS	: On the inventory, or in compliance with the inventory
IECSC	: On the inventory, or in compliance with the inventory
TCSI	: On the inventory, or in compliance with the inventory
TSCA	: On the inventory, or in compliance with the inventory

Inventories

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (USA)

TSCA - 5(a) Significant New Use Rule List of Chemicals

No substances are subject to a Significant New Use Rule.

US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)

No substances are subject to TSCA 12(b) export notification requirements.

TSCA - 5(a) Significant New Use Rule List of Chemicals

No substances are subject to a Significant New Use Rule.

US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)

No substances are subject to TSCA 12(b) export notification requirements.

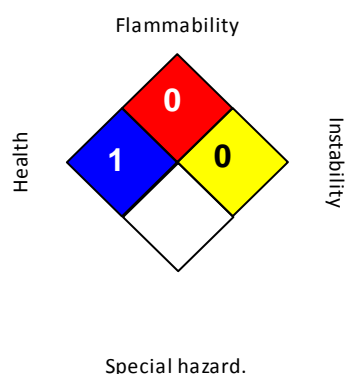
SYNTHETIC IRON OXIDE RED 1117

Version 2.1 Revision Date: 03/14/2018 SDS Number: 400000002716 Date of last issue: 04/26/2017
 Date of first issue: 11/03/2016

SECTION 16. OTHER INFORMATION

Further information

NFPA:



HMIS® IV:

HEALTH	*	1
FLAMMABILITY		0
PHYSICAL HAZARD		0

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

LABEL CODE : N/A

Sources of key data used to compile the Safety Data Sheet : Information taken from reference works and the literature., Information derived from practical experience.

Revision Date : 03/14/2018

ACGIH : USA. ACGIH Threshold Limit Values (TLV)
 OSHA Z-1 : USA. Occupational Exposure Limits (OSHA) - Table Z-1
 Limits for Air Contaminants
 ACGIH / TWA : 8-hour, time-weighted average
 OSHA Z-1 / TWA : 8-hour time weighted average

The information and recommendations in this publication are to the best of our knowledge, information and belief accurate at the date of publication, NOTHING HEREIN IS TO BE CONSTRUED AS A WARRANTY, EXPRESS OR OTHERWISE.

IN ALL CASES, IT IS THE RESPONSIBILITY OF THE USER TO DETERMINE THE APPLICABILITY OF SUCH INFORMATION AND RECOMMENDATIONS AND THE SUITABILITY OF ANY PRODUCT FOR ITS OWN PARTICULAR PURPOSE.

SYNTHETIC IRON OXIDE RED 1117

Version	Revision Date:	SDS Number:	Date of last issue: 04/26/2017
2.1	03/14/2018	400000002716	Date of first issue: 11/03/2016

THE PRODUCT MAY PRESENT HAZARDS AND SHOULD BE USED WITH CAUTION. WHILE CERTAIN HAZARDS ARE DESCRIBED IN THIS PUBLICATION, NO GUARANTEE IS MADE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.

Hazards, toxicity and behaviour of the products may differ when used with other materials and are dependent upon the manufacturing circumstances or other processes. Such hazards, toxicity and behaviour should be determined by the user and made known to handlers, processors and end users.

The trademarks above are the property of Venator Materials PLC or an affiliate thereof.

NO PERSON OR ORGANIZATION EXCEPT A DULY AUTHORIZED VENATOR EMPLOYEE IS AUTHORIZED TO PROVIDE OR MAKE AVAILABLE DATA SHEETS FOR VENATOR PRODUCTS. DATA SHEETS FROM UNAUTHORIZED SOURCES MAY CONTAIN INFORMATION THAT IS NO LONGER CURRENT OR ACCURATE.