

# Safety Data Sheet

## Red Iron Oxide Catalyst

Revision date : 1/18/2022  
Version: 1.0

Page: 1/9

### 1. Identification

#### Product identifier used on the label

## RCS Red Iron Oxide Catalyst

#### Recommended use of the chemical and restriction on use

Recommended use\*: Colorants for the Paints, lacquers and varnishes industry

Recommended use\*: Propellant burn rate catalyst

Suitable for use in industrial sector: Paints, lacquers and varnishes industry, propulsion industry

\* The "Recommended use" identified for this product is provided solely to comply with a Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

#### Details of the supplier of the safety data sheet

##### Company:

RCS Rocket Motor Components, Inc.  
2113 W 850 N  
Cedar City, UT 84721, USA

Telephone: +1 435-865-7100

#### Emergency telephone number

INFOTRAC: 1-352-323-3500

#### Other means of identification

Molecular formula:	Fe <sub>2</sub> O <sub>3</sub>
Chemical family:	iron oxide pigment
Synonyms:	Ferric oxide C.I. Pigment Red 101, C.I. 77491

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### 2. Hazards Identification

**According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200**

#### Classification of the product

No need for classification according to GHS criteria for this product.

# Safety Data Sheet

## Red Iron Oxide Catalyst

Revision date : 1/18/2022  
Version: 1.0

Page: 2/9

### Label elements

The product does not require a hazard warning label in accordance with GHS criteria.

### Hazards not otherwise classified

No specific dangers known, if the regulations/notes for storage and handling are considered.

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## 3. Composition / Information on Ingredients

### According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Iron oxide

CAS Number: 1309-37-1

Content (W/W):  $\geq 75.0$  -  $< 100.0\%$

Synonym: C.I. 77015

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## 4. First-Aid Measures

### Description of first aid measures

#### General advice:

Remove contaminated clothing.

#### If inhaled:

If difficulties occur after dust has been inhaled, remove to fresh air and seek medical attention.

#### If on skin:

Wash thoroughly with soap and water

#### If in eyes:

Wash affected eyes for at least 15 minutes under running water with eyelids held open.

#### If swallowed:

Rinse mouth and then drink 200-300 ml of water.

### Most important symptoms and effects, both acute and delayed

Symptoms: Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11.

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

#### Note to physician

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

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## 5. Fire-Fighting Measures

### Extinguishing media

# Safety Data Sheet

## Red Iron Oxide Catalyst

Revision date : 1/18/2022  
Version: 1.0

Page: 3/9

Suitable extinguishing media:  
dry powder, foam

Unsuitable extinguishing media for safety reasons:  
carbon dioxide

### Special hazards arising from the substance or mixture

Hazards during fire-fighting:

harmful vapours

Evolution of fumes/fog. The substances/groups of substances mentioned can be released in case of fire.

### Advice for fire-fighters

Protective equipment for fire-fighting:

Wear a self-contained breathing apparatus.

### Further information:

The degree of risk is governed by the burning substance and the fire conditions. Contaminated extinguishing water must be disposed of in accordance with official regulations.

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## 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Use personal protective clothing.

### Environmental precautions

Contain contaminated water/firefighting water. Do not discharge into drains/surface waters/groundwater.

### Methods and material for containment and cleaning up

For small amounts: Pick up with suitable appliance and dispose of.

For large amounts: Contain with dust binding material and dispose of.

Avoid raising dust.

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## 7. Handling and Storage

### Precautions for safe handling

Breathing must be protected when large quantities are decanted without local exhaust ventilation.

Protection against fire and explosion:

No special precautions necessary.

### Conditions for safe storage, including any incompatibilities

Further information on storage conditions: Keep container tightly closed.

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## 8. Exposure Controls/Personal Protection

### Components with occupational exposure limits

Iron oxide	OSHA PEL	PEL 10 mg/m <sup>3</sup> fumes/smoke ; TWA value 10 mg/m <sup>3</sup> fumes/smoke ;
	ACGIH TLV	TWA value 5 mg/m <sup>3</sup> Respirable fraction ;

# Safety Data Sheet

## Red Iron Oxide Catalyst

Revision date : 1/18/2022  
Version: 1.0

Page: 4/9

### Advice on system design:

Provide local exhaust ventilation to control dust.

### Personal protective equipment

#### Respiratory protection:

Wear respiratory protection if ventilation is inadequate.

#### Hand protection:

Chemical resistant protective gloves

#### Eye protection:

Safety glasses with side-shields.

### General safety and hygiene measures:

Handle in accordance with good industrial hygiene and safety practice. Due to the colouring properties of the product closed work clothes should be used, to avoid stains during manipulation. Hands and/or face should be washed before breaks and at the end of the shift.

## 9. Physical and Chemical Properties

Form:	powder	
Odour:	odourless	
Odour threshold:	not determined	
Colour:	red	
pH value:	6 - 8	(DIN EN ISO 787-9)
Melting point:	> 1,000 °C ( 1,013 hPa)	
Boiling point:	Study scientifically not justified.	
Flash point:	Study does not need to be conducted.	
Flammability:	not flammable	
Lower explosion limit:	Study does not need to be conducted.	
Upper explosion limit:	Study does not need to be conducted.	
Autoignition:	No data available.	
Vapour pressure:	not applicable	
Density:	approx. 4.5 g/cm <sup>3</sup> ( 20 °C)	(DIN EN ISO 787-10)
Relative density:	approx. 4.5 ( 20 °C)	
Bulk density:	approx. 125 kg/m <sup>3</sup>	
Vapour density:	The product is a non-volatile solid.	
Partitioning coefficient n-octanol/water (log Pow):	Study does not need to be conducted.	
Self-ignition temperature:	not self-igniting	
Thermal decomposition:	No data available.	
Viscosity, dynamic:	Study does not need to be conducted.	
Viscosity, kinematic:	Study scientifically not justified.	
Particle size:	No data available.	
Solubility in water:	insoluble	
Solubility (quantitative):	The product has not been tested.	
Evaporation rate:	The product is a non-volatile solid.	

# Safety Data Sheet

## Red Iron Oxide Catalyst

Revision date : 1/18/2022  
Version: 1.0

Page: 5/9

### 10. Stability and Reactivity

#### Reactivity

No hazardous reactions if stored and handled as prescribed/indicated.

Corrosion to metals:

No corrosive effect on metal.

Oxidizing properties:

not fire-propagating

#### Chemical stability

The product is stable if stored and handled as prescribed/indicated.

#### Possibility of hazardous reactions

No hazardous reactions when stored and handled according to instructions.

#### Conditions to avoid

Avoid dust formation. Avoid deposition of dust. See SDS section 7 - Handling and storage.

#### Incompatible materials

No substances known that should be avoided.

#### Hazardous decomposition products

Decomposition products:

Hazardous decomposition products: No hazardous decomposition products if stored and handled as prescribed/indicated.

Thermal decomposition:

No data available.

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### 11. Toxicological information

#### Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

#### Acute Toxicity/Effects

##### Acute toxicity

Assessment of acute toxicity: Virtually nontoxic after a single ingestion.

##### Oral

Type of value: LD50

Species: rat

Value: > 5,000 mg/kg

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

##### Inhalation

Study scientifically not justified.

##### Dermal

# Safety Data Sheet

## Red Iron Oxide Catalyst

Revision date : 1/18/2022  
Version: 1.0

Page: 6/9

Study scientifically not justified.

### Assessment other acute effects

Assessment of STOT single:

Based on the available information there is no specific target organ toxicity to be expected after a single exposure.

### Irritation / corrosion

Assessment of irritating effects: Not irritating to the eyes. Not irritating to the skin.

### Skin

Species: rabbit

Result: non-irritant

Method: OECD Guideline 404

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

### Eye

Species: rabbit

Result: non-irritant

Method: OECD Guideline 405

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

### Sensitization

Assessment of sensitization: Skin sensitizing effects were not observed in animal studies. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

### Maurer optimisation test

Species: guinea pig

Result: Non-sensitizing.

Method: OECD Guideline 406

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

### Aspiration Hazard

not applicable

## **Chronic Toxicity/Effects**

### Repeated dose toxicity

Assessment of repeated dose toxicity: The substance may cause increase in lung mass and lung tissue changes after repeated inhalation. Observed effects were reversible. The product has not been fully tested. The statements have been derived in parts from products of a similar structure or composition.

### Genetic toxicity

Assessment of mutagenicity: No mutagenic effect was found in various tests with bacteria and mammalian cell culture. The substance was not mutagenic in a test with mammals. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

### Carcinogenicity

Assessment of carcinogenicity: The whole of the information assessable provides no indication of a carcinogenic effect. IARC Group 3 (not classifiable as to human carcinogenicity).

# Safety Data Sheet

## Red Iron Oxide Catalyst

Revision date : 1/18/2022  
Version: 1.0

Page: 7/9

### Reproductive toxicity

Assessment of reproduction toxicity: Study scientifically not justified.

### Teratogenicity

Assessment of teratogenicity: Study scientifically not justified.

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## 12. Ecological Information

### **Toxicity**

#### Aquatic toxicity

Assessment of aquatic toxicity:

There is a high probability that the product is not acutely harmful to aquatic organisms.

#### Toxicity to fish

LC0 (48 h) > 1,000 mg/l, Leuciscus idus

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

#### Aquatic invertebrates

LC50 (48 h) > 100 mg/l, Daphnia magna (OECD Guideline 202, part 1, static)

The details of the toxic effect relate to the nominal concentration. Tested above maximum solubility. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

#### Aquatic plants

Study scientifically not justified.

#### Chronic toxicity to fish

Study scientifically not justified.

#### Chronic toxicity to aquatic invertebrates

Study scientifically not justified.

#### Assessment of terrestrial toxicity

Study scientifically not justified.

### **Microorganisms/Effect on activated sludge**

#### Toxicity to microorganisms

DIN EN ISO 8192 static

activated sludge of a predominantly domestic sewage/EC50 (3 h): 10,000 mg/l

Tested above maximum solubility. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

### **Persistence and degradability**

#### Assessment biodegradation and elimination (H2O)

Inorganic product which cannot be eliminated from water by biological purification processes. The product is virtually insoluble in water and can thus be separated from water mechanically in suitable effluent treatment plants.

### **Bioaccumulative potential**

#### Assessment bioaccumulation potential

The product will not be readily bioavailable due to its consistency and insolubility in water.

# Safety Data Sheet

## Red Iron Oxide Catalyst

Revision date : 1/18/2022  
Version: 1.0

Page: 8/9

### Mobility in soil

#### Assessment transport between environmental compartments

The substance will not evaporate into the atmosphere from the water surface.  
Adsorption to solid soil phase is not expected.

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## 13. Disposal considerations

### Waste disposal of substance:

May be disposed of or combusted with domestic refuse according to local regulations. Check for possible recycling.

### Container disposal:

Uncontaminated packaging can be re-used. Packs that cannot be cleaned should be disposed of in the same manner as the contents.

RCRA: None

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## 14. Transport Information

### Land transport

USDOT

Not classified as a dangerous good under transport regulations

### Sea transport

IMDG

Not classified as a dangerous good under transport regulations

### Air transport

IATA/ICAO

Not classified as a dangerous good under transport regulations

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## 15. Regulatory Information

### Federal Regulations

#### Registration status:

Chemical TSCA, US released / listed

**EPCRA 311/312 (Hazard categories):** Refer to SDS section 2 for GHS hazard classes applicable for this product.

### State regulations

#### State RTK

PA

#### CAS Number

1309-37-1

#### Chemical name

Iron oxide

#### NFPA Hazard codes:

Health: 1 Fire: 0 Reactivity: 0 Special:



# Safety Data Sheet

## Red Iron Oxide Catalyst

Revision date : 1/18/2022

Page: 9/9

Version: 1.0

---

### HMIS III rating

Health: 1 $\alpha$     Flammability: 1    Physical hazard: 0

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## 16. Other Information

### SDS Prepared by:

RCS Rocket Motor Components, Inc.

SDS Prepared on: 1/18/2022

We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care is integral to conducting our business and operating our facilities in a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our operations on society and the environment during production, storage, transport, use and disposal of our products.

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RCS Red Iron Oxide Catalyst END OF DATA SHEET