



SAFETY DATA SHEET

in accordance with 2020/878/EU (REACH, Annex II) 29 CFR 1910.1200, WHMIS 2015 and Safe Work Australia

Revision date: 27 July 2022 **Date of previous issue:** 24 September 2020 **SDS No.** 1105-6

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

1400R

Unique Formula Identifier (UFI): Not available

1.2. Relevant identified uses of the substance or mixture and uses advised against

Product 1400R is a braided, reinforced graphite tape packing coated with a high temperature blocking agent. It is applicable for use in virtually all pumps and valves in steam service to 650°C (1200°F). Product 1400R has a maximum pressure rating of 4000 psi (275 Bar)* and a pH range of 0-14 (excluding oxidizing fluids).

* For pressures above 3600 psi (250 Bar), contact application engineering.

1.3. Details of the supplier of the safety data sheet

Company:

A.W. CHESTERTON COMPANY
860 Salem Street
Groveland, MA 01834-1507, USA
Tel. +1 978-469-6446 Fax: +1 978-469-6785
(Mon. - Fri. 8:30 - 5:00 PM EST)
SDS requests: www.chesterton.com
E-mail (SDS questions): ProductSDSs@chesterton.com
E-mail: customer.service@chesterton.com

Supplier:

Canada: A.W. Chesterton Company Ltd., 889 Fraser Drive,
Unit 105, Burlington, Ontario L7L 4X8 – Tel. 905-335-5055
EU: Chesterton International GmbH, Am Lenzenfleck 23,
D85737 Ismaning, Germany – Tel. +49-89-996-5460

1.4. Emergency telephone number

24 hours per day, 7 days per week
Call Infotrac: 1-800-535-5053
Outside N. America: +1 352-323-3500 (collect)
NSW Poisons Information Centre (Australia): 13 11 26

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

2.1.1. Classification according to Regulation (EC) No 1272/2008 [CLP] / 29 CFR 1910.1200 / WHMIS 2015 / GHS

This product does not meet the criteria for classification in any hazard class according to Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures, 29 CFR 1910.1200, WHMIS 2015, Safe Work Australia and GHS.

2.1.2. Australian statement of hazardous nature

Not classified as hazardous according to criteria of Safe Work Australia.

2.1.3. Additional information

None

2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008 [CLP] / 29 CFR 1910.1200 / WHMIS 2015 / GHS

Hazard pictograms: None

Signal word: None

Hazard statements: None

Precautionary statements: None

Supplemental information: None

2.3. Other hazards

None expected in industrial use.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

Hazardous Ingredients ¹	% Wt.	CAS No./ EC No.	REACH Reg. No.	CLP/GHS Classification	SCL, M-factor, ATE
Graphite/Carbon	90-99	7782-42-5/ 231-955-3 7440-44-0/ 231-153-3	NA	Not classified	ATE (oral): > 2,000 mg/kg ATE (inhalation, dust): > 2 mg/l

¹ Classified according to: • 29 CFR 1910.1200, 1915, 1916, 1917, Mass. Right-to-Know Law (ch. 40, M.G.L..O. 111F)
• 1272/2008/EC, GHS, REACH
• WHMIS 2015
• Safe Work Australia

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

Inhalation: Remove to fresh air. If not breathing, administer artificial respiration. Contact physician.

Skin contact: Wash skin with soap and water. Contact physician if irritation persists.

Eye contact: Flush eyes for at least 15 minutes with large amounts of water. Contact physician if irritation persists.

Ingestion: not applicable

Protection of first-aiders: No special precautions.

4.2. Most important symptoms and effects, both acute and delayed

Graphite dust and carbon fibers may cause mechanical irritation of the skin, eyes and nasal passages. Repeated inhalation of nuisance dust in excess of exposure limits over an extended period of time may result in injury to the lungs. Symptoms can include cough, shortness of breath and decrease in pulmonary function.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptoms.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media: Carbon dioxide, dry chemical, foam or water spray

Unsuitable extinguishing media: None known

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products: Carbon Monoxide, Carbon Dioxide, Sulfur Dioxide and other toxic fumes.

Other hazards: None

5.3. Advice for firefighters

Recommend Firefighters wear self-contained breathing apparatus.

Australian HAZCHEM Emergency Action Code: 2 Z

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Utilize exposure controls and personal protection as specified in Section 8.

6.2. Environmental Precautions

No special requirements.

6.3. Methods and material for containment and cleaning up

No special steps required. Nontoxic.

6.4. Reference to other sections

Refer to section 13 for disposal advice.

SECTION 7: HANDLING AND STORAGE**7.1. Precautions for safe handling**

After handling, wash before eating, drinking or smoking.

7.2. Conditions for safe storage, including any incompatibilities

Keep in dry and ventilated area.

7.3. Specific end use(s)

No special precautions.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**8.1. Control parameters****Occupational exposure limit values**

Ingredients	OSHA PEL ¹		ACGIH TLV ²		UK WEL ³		AUSTRALIA ES ⁴	
	ppm	mg/m ³	ppm	mg/m ³	ppm	mg/m ³	ppm	mg/m ³
Graphite	15 mppcf	(resp.)	(resp.)	2	(resp.)	4 (total)	(resp.)	3
Carbon fiber	(total)	15 *	(total)	10 *	N/A	N/A	N/A	N/A
	(resp.)	5	(resp.)	3				

* Particles Not Otherwise Specified (PNOS)

¹ United States Occupational Health & Safety Administration permissible exposure limits

² American Conference of Governmental Industrial Hygienists threshold limit values

³ EH40 Workplace exposure limits, Health & Safety Executive

⁴ Safe Work Australia, Workplace Exposure Standards for Airborne Contaminants

Biological limit values

No biological exposure limits noted for the ingredient(s).

Derived No Effect Level (DNEL) according to Regulation (EC) No 1907/2006:**Workers**

Substance	Route of exposure	Potential health effects	DNEL
Graphite	Inhalation	Chronic effects, local	1.2 mg/m ³ (GESTIS)
		Chronic effects, systemic	1.2 mg/m ³ (GESTIS)
Carbon fiber	Inhalation	Chronic effects, systemic	14.1 mg/m ³ (GESTIS)

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No 1907/2006:

Not available

8.2. Exposure controls**8.2.1. Engineering measures**

No special requirements. If exposure limits are exceeded, provide adequate ventilation.

8.2.2. Individual protection measures

Respiratory protection: Not normally needed. If exposure limit is exceeded, use approved dust respirator (e.g., EN filter type P1).

Protective gloves: Recommended

Eye and face protection: Safety glasses

Other: None

8.2.3. Environmental exposure controls

No special requirements.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**9.1. Information on basic physical and chemical properties**

Physical state	solid	pH	not applicable
Colour	black	Kinematic viscosity	not applicable
Odour	None	Solubility in water	insoluble
Odour threshold	not applicable	Partition coefficient n-octanol/water (log value)	not applicable
Boiling point or range	not applicable	Vapour pressure @ 20°C	not applicable
Melting point/freezing point	not applicable	Density and/or relative density	not applicable
% Volatile (by volume)	not applicable	Weight per volume	not applicable
Flammability	not applicable	Vapour density (air=1)	not applicable
Lower/upper flammability or explosion limits	not applicable	Rate of evaporation (ether=1)	not applicable
Flash point	not applicable	% Aromatics by weight	not applicable
Method	not applicable	Particle characteristics	
Autoignition temperature	not determined	Explosive properties	not determined
Decomposition temperature	not determined	Oxidising properties	not determined

9.2. Other information

None

SECTION 10: STABILITY AND REACTIVITY**10.1. Reactivity**

Refer to sections 10.3 and 10.5.

10.2. Chemical stability

Stable

10.3. Possibility of hazardous reactions

No dangerous reactions known under conditions of normal use.

10.4. Conditions to avoid

Temperatures above 650°C (1200°F).

10.5. Incompatible materials

Strong oxidizers like liquid Chlorine and concentrated Oxygen.

10.6. Hazardous decomposition products

Carbon Monoxide, Carbon Dioxide, Sulfur Dioxide and other toxic fumes.

SECTION 11: TOXICOLOGICAL INFORMATION**11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008 / GHS**

Primary route of exposure under normal use: Inhalation, skin and eye contact. Personnel with pre-existing chronic respiratory impairments may be aggravated by exposure.

Acute toxicity -**Oral:**

Based on available data on components, the classification criteria are not met.

Substance	Test	Result
Graphite	LD50, rat	> 2000 mg/kg

Dermal:

Based on available data on components, the classification criteria are not met.

Inhalation:

Graphite dust and carbon fibers may cause mechanical irritation of the nasal passages.

Substance	Test	Result
Graphite	LC50, rat, 4 hours	> 2000 mg/m ³

Skin corrosion/irritation:

Graphite dust and carbon fibers may cause mechanical irritation of the skin.

Substance	Test	Result
Graphite	Skin irritation, rabbit	Not irritating

Serious eye damage/irritation:

Graphite dust and carbon fibers may cause mechanical irritation of the eyes.

Substance	Test	Result
Graphite	Eye irritation, rabbit	Not irritating

Respiratory or skin sensitisation:

Graphite: based on available data, the classification criteria are not met.

Substance	Test	Result
Graphite	Skin sensitization (OECD 429), mouse	Not sensitizing

Germ cell mutagenicity:

Graphite: based on available data, the classification criteria are not met.

Carcinogenicity:

This product contains no carcinogens as listed by the National Toxicology Program (NTP), the International Agency for Research on Cancer (IARC), the Occupational Safety and Health Administration (OSHA) or the European Chemicals Agency (ECHA).

Reproductive toxicity:

Graphite: based on available data, the classification criteria are not met.

STOT – single exposure:

Graphite: based on available data, the classification criteria are not met.

STOT – repeated exposure:

Repeated inhalation of nuisance dust in excess of exposure limits over an extended period of time may result in injury to the lungs. Symptoms can include cough, shortness of breath and decrease in pulmonary function. Graphite: based on available data, the classification criteria are not met.

Aspiration hazard:

Based on available data, the classification criteria are not met.

11.2. Information on other hazards

None

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicological data have not been determined specifically for this product. The information given below is based on a knowledge of the components and the ecotoxicology of similar substances.

12.1. Toxicity

Not expected to be harmful to aquatic organisms. Graphite: 96 h LC50 (fish) > 100 mg/l.

12.2. Persistence and degradability

Graphite/Carbon: inorganic substances, exist in nature.

12.3. Bioaccumulative potential

No information available.

12.4. Mobility in soil

Solid. Insoluble in water. In determining environmental mobility, consider the product's physical and chemical properties (see Section 9).

12.5. Results of PBT and vPvB assessment

Not available

12.6. Endocrine disrupting properties

None known

12.7. Other adverse effects

None known

SECTION 13: DISPOSAL CONSIDERATIONS**13.1. Waste treatment methods**

Unused product is not a regulated waste. Not classified as hazardous according to 2008/98/EC. Can be disposed in a secure, properly licensed landfill. Check local, state and national/federal regulations and comply with the most stringent requirement.

SECTION 14: TRANSPORT INFORMATION**14.1. UN number or ID number****ADG/ADR/RID/ADN/IMDG/ICAO:** NOT APPLICABLE**TDG:** NOT APPLICABLE**US DOT:** NOT APPLICABLE**14.2. UN proper shipping name****ADG/ADR/RID/ADN/IMDG/ICAO:** NON-HAZARDOUS, NON REGULATED**TDG:** NON-HAZARDOUS, NON REGULATED**US DOT:** NON-HAZARDOUS, NON REGULATED

14.3. Transport hazard class(es)

ADG/ADR/RID/ADN/IMDG/ICAO: NOT APPLICABLE
 TDG: NOT APPLICABLE
 US DOT: NOT APPLICABLE

14.4. Packing group

ADG/ADR/RID/ADN/IMDG/ICAO: NOT APPLICABLE
 TDG: NOT APPLICABLE
 US DOT: NOT APPLICABLE

14.5. Environmental hazards

NOT APPLICABLE

14.6. Special precautions for user

NOT APPLICABLE

14.7. Maritime transport in bulk according to IMO instruments

NOT APPLICABLE

14.8. Other information

NOT APPLICABLE

SECTION 15: REGULATORY INFORMATION**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****15.1.1. EU regulations**

Authorisations under Title VII: Not applicable

Restrictions under Title VIII: Not applicable

Other EU regulations: None

15.1.2. National regulations**US EPA SARA TITLE III**

312 Hazards: Chemicals subject to reporting requirements of Section 313 of EPCRA and of 40 CFR 372:

None

Other national regulations: None

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

SECTION 16: OTHER INFORMATION

Abbreviations and acronyms: ADG: Australian Dangerous Goods Code
 ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
 ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
 ATE: Acute Toxicity Estimate
 BCF: Bioconcentration Factor
 cATpE: Converted Acute Toxicity point Estimate
 CLP: Classification Labelling Packaging Regulation (1272/2008/EC)
 ES: Exposure Standard
 GHS: Globally Harmonized System
 ICAO: International Civil Aviation Organization
 IMDG: International Maritime Dangerous Goods
 LC50: Lethal Concentration to 50 % of a test population
 LD50: Lethal Dose to 50% of a test population
 LOEL: Lowest Observed Effect Level
 N/A: Not Applicable
 NA: Not Available
 NOEC: No Observed Effect Concentration
 NOEL: No Observed Effect Level
 OECD: Organization for Economic Co-operation and Development
 PBT: Persistent, Bioaccumulative and Toxic substance
 (Q)SAR: Quantitative Structure-Activity Relationship
 REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (1907/2006/EC)
 REL: Recommended Exposure Limit
 RID: Regulations concerning the International Carriage of Dangerous Goods by Rail
 SCL: Specific Concentration Limit
 SDS: Safety Data Sheet
 STEL: Short Term Exposure Limit
 STOT RE: Specific Target Organ Toxicity, Repeated Exposure
 STOT SE: Specific Target Organ Toxicity, Single Exposure
 TDG: Transportation of Dangerous Goods (Canada)
 TWA: Time Weighted Average
 US DOT: United States Department of Transportation
 vPvB: very Persistent and very Bioaccumulative substance
 WEL: Workplace Exposure Limit
 WHMIS: Workplace Hazardous Materials Information System
 Other abbreviations and acronyms can be looked up at www.wikipedia.org.

Key literature references and sources for data: Commission des normes, de l'équité, de la santé et de la sécurité du travail (CNESST)
 Chemical Classification and Information Database (CCID)
 European Chemicals Agency (ECHA) - Information on Chemicals
 Hazardous Chemical Information System (HCIS)
 National Institute of Technology and Evaluation (NITE)
 Swedish Chemicals Agency (KEMI)
 U.S. National Library of Medicine Toxicology Data Network (TOXNET)

Procedure used to derive the classification for mixtures according to Regulation (EC) No 1272/2008 [CLP] / GHS:

Classification	Classification procedure
Not applicable	Not applicable

Relevant H-statements: None

Hazard pictogram names: Not applicable

Further information: None

Date of last revision: 27 July 2022

Changes to the SDS in this revision: Sections 1.1, 1.3, 1.4, 2.1, 3, 4.1, 5.2, 8.1, 9.1, 11, 15.1.2, 16.

This information is based solely on data provided by suppliers of the materials used, not on the mixture itself. No warranty is expressed or implied regarding the suitability of the product for the user's particular purpose. The user must make their own determination as to suitability.