SAFETY DATA SHEET

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

Revision date: 11 October 2022 **Date of previous issue:** 14 July 2022 **SDS No.** 1149-1

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

1.1. Product identifier

377 CarbMax™

Unique Formula Identifier (UFI): Not available

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

Relevant identified uses: Compression packing for digester applications.

Uses advised against: No data available

Reason why uses advised against: Not applicable

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. PTFE is nonhazardous at ambient temperatures. At temperatures above 260°C (500°F), toxic decomposition products may be emitted. Due to toxic decomposition, avoid smoking (wash hands to avoid transfer to tobacco products) when handling PTFE products.

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	60 - 70	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

*Substance with a workplace exposure limit.

[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: If overcome by decomposition fumes, 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

PTFE is nontoxic at ambient temperatures. However, small quantities of toxic gases may be produced at temperatures above 260°C (500°F), due to decomposition. Inhalation of these decomposition products may cause temporary flu-like symptoms. 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: Water spray, alcohol-resistant foam, carbon dioxide, dry chemical

Unsuitable extinguishing media: None known

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products: Toxic fumes may be emitted at temperatures above 260°C (500°F). See section 10.6 for additional information.

Other hazards: None known

5.3. Advice for firefighters

Recommend Firefighters wear self-contained breathing apparatus to protect against hazardous decomposition products.

Australian HAZCHEM Emergency Action Code: 2 Z

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Avoid contamination of tobacco products. 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

Do not smoke when handling product; wash hands after handling to avoid transfer to tobacco products.

7.2. Conditions for safe storage, including any incompatibilities

Store in a cool, dark, dry 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/m³	ppm	mg/m³	ppm	mg/m³	ppm	mg/m³
Graphite	(total) (resp.)	15 5	(resp.)	2	(total) (resp.)	10 4	(resp.)	3
Carbon fiber	(total) (resp.)	15 * 5	(total) (resp.)	10 * 3	N/A	N/A	N/A	N/A

* 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

Not available

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

Workers

Not available

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 using under extreme heat, use local exhaust.

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 P2).

Protective gloves: Recommended

Eye and face protection: Not normally needed.

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	gray/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**	no data available
Autoignition temperature	not applicable	**Explosive properties**	not explosive
Decomposition temperature	not applicable	**Oxidising properties**	not applicable

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

Extreme heat above 260°C (500°F).

10.5. Incompatible materials

Fluorine, Chlorine Trifluoride and related compounds and molten alkali metals.

10.6. Hazardous decomposition products

Carbon Monoxide, Carbon Dioxide, trace amounts of Hydrogen Fluoride, Carbonyl Fluoride, Perfluorocarbon olefins and other toxic fumes may be evolved above 260°C (500°F).

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	> 2,000 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	> 2,000 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: Based on available data on components, the classification criteria are not met.

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

Germ cell mutagenicity: Based on available data on components, 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: Based on available data on components, the classification criteria are not met.

STOT – single exposure: Based on available data on components, 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. PTFE: material is chemically unreactive and nonbiodegradable.

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: None

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	None

TSCA: All chemical components are listed or exempted.

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: 11 October 2022

Changes to the SDS in this revision: Sections 1.2, 3, 15.1.2.

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.