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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Name of the substance Carbon Black Oil
Identification number 93165-19-6 (Index number)
Registration number 01-2119486893-20-0002
Synonyms Heavy Cycle Gas Oil, HCO, HCGO
SDS number 2005

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

Identified uses Distribution of substance, repackaging of substances, manufacturing, use as fuel.
Uses advised against All other uses.

1.3. Details of the supplier of the safety data sheet

Supplier

Company name Valero Energy Ltd
 1st Floor, Block B
Address D22 X0Y3, Quarryvale
 Ireland
Telephone 01/210 345 4593 (General information; US)
e-mail CorpHSE@valero.com
Contact person Industrial Hygienist

1.4. Emergency telephone number 0044/(0)18 65 407333

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

The substance has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

Classification according to Regulation (EC) No 1272/2008 as amended

Health hazards

Acute toxicity, inhalation	Category 4	H332 - Harmful if inhaled.
Carcinogenicity	Category 1B	H350 - May cause cancer.
Reproductive toxicity (the unborn child)	Category 2	H361d - Suspected of damaging the unborn child.
Specific target organ toxicity - repeated exposure	Category 2 (blood, liver, thymus)	H373 - May cause damage to organs (blood, liver, thymus) through prolonged or repeated exposure.
Aspiration hazard	Category 1	H304 - May be fatal if swallowed and enters airways.

Environmental hazards

Hazardous to the aquatic environment, acute aquatic hazard	Category 1 M-Factor = 1.	H400 - Very toxic to aquatic life.
Hazardous to the aquatic environment, long-term aquatic hazard	Category 1 M-Factor = 1.	H410 - Very toxic to aquatic life with long lasting effects.

2.2. Label elements

Label according to Regulation (EC) No. 1272/2008 as amended

Contains: Distillates (petroleum), heavy catalytic cracked

Hazard pictograms



Signal word	Danger
Hazard statements	
H304	May be fatal if swallowed and enters airways.
H332	Harmful if inhaled.
H350	May cause cancer.
H361d	Suspected of damaging the unborn child.
H373	May cause damage to organs (blood, liver, thymus) through prolonged or repeated exposure.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention

P201	Obtain special instructions before use.
P260	Do not breathe mist/vapours.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

Response

P301 + P310	IF SWALLOWED: Immediately call a POISON CENTRE/doctor.
P331	Do NOT induce vomiting.
P308 + P313	IF exposed or concerned: Get medical advice/attention.
P391	Collect spillage.

Storage

Not assigned.

Disposal

Not assigned.

Supplemental information on the label

EUH066 - Repeated exposure may cause skin dryness or cracking.

2.3. Other hazards

This substance does not meet vPvB / PBT criteria of Regulation (EC) No 1907/2006, Annex XIII. The substance is not included in the list established in accordance with REACH Article 59(1) for having endocrine disrupting properties. The substance is not considered to have endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

SECTION 3: Composition/information on ingredients

3.1. Substances

General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
Distillates (petroleum), heavy catalytic cracked	100	64741-61-3 296-903-4	01-2119486893-20-0002	93165-19-6	
Classification: Acute Tox. 4;H332;(ATE: 11 mg/l), Carc. 1B;H350, Repr. 2;H361d, STOT RE 2;H373, Asp. Tox. 1;H304, Aquatic Acute 1;H400(M=1), Aquatic Chronic 1;H410(M=1)					

List of abbreviations and symbols that may be used above

ATE: Acute toxicity estimate.
M: M-factor
vPvB: very persistent and very bioaccumulative substance.
PBT: persistent, bioaccumulative and toxic substance.
#: This substance has been assigned Union workplace exposure limit(s).

Composition comments

Hydrogen sulphide (H₂S) can accumulate in the headspace of storage tanks and reach potentially hazardous concentrations.

The full text for all H-statements is displayed in section 16.

SECTION 4: First aid measures

General information

IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

4.1. Description of first aid measures

Inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Call a poison centre or doctor/physician if you feel unwell.

Skin contact

Wash off with soap and water. Get medical attention if irritation develops and persists.

Eye contact

Rinse with water. Get medical attention if irritation develops and persists.

Ingestion

Call a physician or poison control centre immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

4.2. Most important symptoms and effects, both acute and delayed	Aspiration may cause pulmonary oedema and pneumonitis. Direct contact with eyes may cause temporary irritation. Jaundice. Prolonged exposure may cause chronic effects.
4.3. Indication of any immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

SECTION 5: Firefighting measures

General fire hazards	Combustible liquid.
5.1. Extinguishing media	
Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
5.2. Special hazards arising from the substance or mixture	The product is combustible, and heating may generate vapours which may form explosive vapour/air mixtures. During fire, gases hazardous to health may be formed.
5.3. Advice for firefighters	
Special protective equipment for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Special fire fighting procedures	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures	
For non-emergency personnel	Do not breathe mist/vapours.
For emergency responders	Keep unnecessary personnel away. Ensure adequate ventilation. Avoid inhalation of vapours and spray mists. Local authorities should be advised if significant spillages cannot be contained. Use personal protection recommended in Section 8 of the SDS.
6.2. Environmental precautions	Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.
6.3. Methods and material for containment and cleaning up	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil etc) away from spilled material. The product is immiscible with water and will sediment in water systems. Prevent entry into waterways, sewer, basements or confined areas. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water. Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. Put material in suitable, covered, labelled containers. The product is insoluble in water.
6.4. Reference to other sections	For personal protection, see section 8 of the SDS. For waste disposal, see section 13 of the SDS.

SECTION 7: Handling and storage

7.1. Precautions for safe handling	Before entering storage tanks and commencing any operation in a confined area check the atmosphere for oxygen content and flammability. (Subject to applicability) If sulphur compounds are suspected to be present in the product, check the atmosphere for H ₂ S content. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from open flames, hot surfaces and sources of ignition. When using do not smoke. Do not breathe mist/vapours. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.
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7.2. Conditions for safe storage, including any incompatibilities

Store locked up. Keep away from heat, sparks and open flame. Store in a cool, dry place out of direct sunlight. Store in tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see section 10 of the SDS).

Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended

ANNEX 1, PART 1 Categories of dangerous substances

Hazard categories in accordance with Regulation (EC) No 1272/2008

- E1 Hazardous to the Aquatic Environment Acute (Lower-tier requirements = 100 tonnes; Upper-tier requirements = 200 tonnes)

- E1 Hazardous to the Aquatic Environment Chronic (Lower-tier requirements = 100 tonnes; Upper-tier requirements = 200 tonnes)

7.3. Specific end use(s)

Observe industrial sector guidance on best practices.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits No exposure limits noted for ingredient(s).

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

Recommended monitoring procedures Follow standard monitoring procedures.

Derived no effect levels (DNELs)

General population

Product	Value	Assessment factor	Notes
Carbon Black Oil (CAS 64741-61-3) Long-term, Systemic, Oral	0.015 mg/kg bw/day		

Workers

Product	Value	Assessment factor	Notes
Carbon Black Oil (CAS 64741-61-3) Long-term, Systemic, Dermal	0.065 mg/kg bw/day		
Long-term, Systemic, Inhalation	0.18 mg/m ³		
Short-term, Systemic, Inhalation	4700 mg/m ³		

Predicted no effect concentrations (PNECs)

Product	Value	Assessment factor	Notes
Carbon Black Oil (CAS 64741-61-3) Secondary poisoning	66.7 mg/kg		

8.2. Exposure controls

Appropriate engineering controls Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

General information Use personal protective equipment as required. Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

Eye/face protection Chemical respirator with organic vapour cartridge and full facepiece. Eye protection should meet standard EN 166.

Skin protection

- Hand protection Wear suitable gloves tested to EN374. In full contact: Glove material: Nitrile rubber. Layer thickness: 0.225 mm. Breakthrough time: >480 min. Splash contact: Glove material: Neoprene; Layer thickness: 0.75 mm; Breakthrough time: 10-30 min.

- Other Wear suitable protective clothing. Use of an impervious apron is recommended.

Respiratory protection In case of inadequate ventilation or risk of inhalation of oil mist, suitable respiratory equipment with combination filter (type A2/P2) can be used.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

Hygiene measures

Observe any medical surveillance requirements. When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

Environmental exposure controls

Inform appropriate managerial or supervisory personnel of all environmental releases. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. Fume scrubbers, filters or engineering modifications to the process equipment may be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Form	Liquid.
Colour	Brown.
Odour	Petroleum.
Melting point/freezing point	Property has not been measured.
Boiling point or initial boiling point and boiling range	> 160 - < 600 °C (> 320 - < 1112 °F)
Flammability	Combustible.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Property has not been measured.
Explosive limit – upper (%)	Property has not been measured.
Flash point	> 64 - < 310 °C (> 147.2 - < 590 °F) Pensky-Martens Closed Cup
Auto-ignition temperature	371 °C (699.8 °F)
Decomposition temperature	Property has not been measured.
pH	Not applicable as the product is insoluble in water.
Kinematic viscosity	>= 6 - <= 55 mm ² /s
Solubility	
Solubility (water)	Insoluble in water.
Partition coefficient (n-octanol/water) (log value)	Not determined.
Vapour pressure	Property has not been measured.
Density and/or relative density	
Relative density	> 1000 - < 1100 kg/m ³
Vapour density	> 1
Particle characteristics	Not applicable.

9.2. Other information

9.2.1. Information with regard to physical hazard classes No relevant additional information available.

9.2.2. Other safety characteristics

Evaporation rate	Property has not been measured.
Viscosity	100 mm ² /s (37.8°C)

SECTION 10: Stability and reactivity

10.1. Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
10.2. Chemical stability	Material is stable under normal conditions.
10.3. Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
10.4. Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
10.5. Incompatible materials	Strong oxidising agents.
10.6. Hazardous decomposition products	No hazardous decomposition products are known.

SECTION 11: Toxicological information

General information Occupational exposure to the substance or mixture may cause adverse effects.

Information on likely routes of exposure

Inhalation	Harmful if inhaled.
Skin contact	Prolonged or repeated contact may dry skin and cause irritation.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.

Symptoms Aspiration may cause pulmonary oedema and pneumonitis. Jaundice. Prolonged exposure may cause chronic effects.

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity Harmful if inhaled.

Product	Species	Test Results
Distillates (petroleum), heavy catalytic cracked (CAS 64741-61-3)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Inhalation		
<i>Aerosol</i>		
LC50	Rat	4100 mg/m ³ , 4 Hours
Oral		
LD50	Female Rat	4320 mg/kg
Skin corrosion/irritation	Based on available data, the classification criteria are not met.	
Serious eye damage/eye irritation	Based on available data, the classification criteria are not met.	
Respiratory sensitisation	Based on available data, the classification criteria are not met.	
Skin sensitisation	Based on available data, the classification criteria are not met.	
Germ cell mutagenicity	Based on available data, the classification criteria are not met.	
Carcinogenicity	May cause cancer.	

IARC Monographs. Overall Evaluation of Carcinogenicity

Distillates (petroleum), heavy catalytic cracked (CAS 64741-61-3) 2B Possibly carcinogenic to humans.

Reproductive toxicity	Suspected of damaging the unborn child.
Specific target organ toxicity - single exposure	Based on available data, the classification criteria are not met.
Specific target organ toxicity - repeated exposure	May cause damage to organs (blood, liver, thymus) through prolonged or repeated exposure.
Aspiration hazard	May be fatal if swallowed and enters airways.
Mixture versus substance information	No information available.

11.2. Information on other hazards

Endocrine disrupting properties	This substance does not have endocrine disrupting properties with respect to human health, as it does not meet the assessment criteria laid out in Regulations (EC) No 1907/2006, (EU) No 2017/2100 and (EU) 2018/605.
Other information	None known.

SECTION 12: Ecological information

12.1. Toxicity Very toxic to aquatic life with long lasting effects.

Product	Species	Test Results
Distillates (petroleum), heavy catalytic cracked (CAS 64741-61-3)		
Aquatic		
<i>Acute</i>		
Algae	EL50 Algae	0.32 mg/l, 72 Hours
Crustacea	EL50 Daphnia	0.22 mg/l, 48 Hours
Fish	LL50 Fish	79 mg/l, 96 Hours
12.2. Persistence and degradability	Expected to be inherently biodegradable.	
12.3. Bioaccumulative potential	The product is not bioaccumulating.	
Partition coefficient n-octanol/water (log Kow)	Not available.	
Bioconcentration factor (BCF)	Not available.	
12.4. Mobility in soil	No data available.	
12.5. Results of PBT and vPvB assessment	This substance does not meet vPvB / PBT criteria of Regulation (EC) No 1907/2006, Annex XIII.	

12.6. Endocrine disrupting properties This substance does not have endocrine disrupting properties with respect to the environment, as it does not meet the assessment criteria laid out in Regulations (EC) No 1907/2006, (EU) No 2017/2100 and (EU) 2018/605.

12.7. Other adverse effects Oil spills are generally hazardous to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Residual waste Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

EU waste code The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Disposal methods/information Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Special precautions Dispose in accordance with all applicable regulations.

SECTION 14: Transport information

ADR

14.1. UN number UN1202

14.2. UN proper shipping name GAS OIL

14.3. Transport hazard class(es)

- Class** 3
- Subsidiary risk** -
- Label(s)** 3
- Hazard No. (ADR)** 30
- Tunnel restriction code** D/E

14.4. Packing group III

14.5. Environmental hazards Yes

14.6. Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

RID

14.1. UN number UN1202

14.2. UN proper shipping name GAS OIL

14.3. Transport hazard class(es)

- Class** 3
- Subsidiary risk** -
- Label(s)** 3

14.4. Packing group III

14.5. Environmental hazards Yes

14.6. Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

ADN

14.1. UN number UN1202

14.2. UN proper shipping name Gas oil

14.3. Transport hazard class(es)

- Class** 3
- Subsidiary risk** -
- Label(s)** 3

14.4. Packing group III

14.5. Environmental hazards Yes

14.6. Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

IATA

14.1. UN number UN1202

14.2. UN proper shipping name Gas oil

14.3. Transport hazard class(es)

Class 3
Subsidiary risk -
Label(s) 3

14.4. Packing group III

14.5. Environmental hazards Yes

ERG Code 3L

14.6. Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

IMDG

14.1. UN number UN1202

14.2. UN proper shipping name GAS OIL

14.3. Transport hazard class(es)

Class 3
Subsidiary risk -
Label(s) 3

14.4. Packing group III

14.5. Environmental hazards

Marine pollutant Yes

EmS F-E, S-E

14.6. Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

14.7. Maritime transport in bulk according to IMO instruments Not applicable. However, this product is a liquid and if transported in bulk covered under MARPOL 73/78, Annex I.

General information Shipping descriptions in this section are offered as examples only. Classification for transport must accurately reflect the material hazards as designated under a variety of regulations and is solely the responsibility of the person offering the material for transport into commerce.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU regulations

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended

Not listed.

Regulation (EU) 2019/1021 On persistent organic pollutants (recast), as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended

Not listed.

Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended

Not listed.

Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA

Not listed.

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended

Not listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended

Distillates (petroleum), heavy catalytic cracked (CAS 64741-61-3)

Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended.

Distillates (petroleum), heavy catalytic cracked (CAS 64741-61-3)

Other EU regulations	Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended ANNEX 1, PART 1 Categories of dangerous substances Hazard categories in accordance with Regulation (EC) No 1272/2008 - E1 Hazardous to the Aquatic Environment Acute - E1 Hazardous to the Aquatic Environment Chronic
	Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended Not listed.
Other regulations	The product is classified and labelled in accordance with Regulation (EC) 1272/2008 (CLP Regulation) as amended. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006, as amended.
National regulations	According to Directive 92/85/EEC as amended, pregnant women should not work with the product, if there is the least risk of exposure. Young people under 18 years old are not allowed to work with this product according to EU Directive 94/33/EC on the protection of young people at work, as amended. Follow national regulation on the protection of workers from the risks of exposure to carcinogens and mutagens at work, in accordance with Directive 2004/37/EC, as amended.
15.2. Chemical safety assessment	Chemical Safety Assessment has been carried out.

SECTION 16: Other information

List of abbreviations

ADN: European Agreement Concerning the International Carriage of Dangerous Goods by Inland Waterways.
 ADR: Agreement concerning the International Carriage of Dangerous Goods by Road.
 CAS: Chemical Abstract Service.
 CEN: European Committee for Standardization.
 IATA: International Air Transport Association.
 IMDG: International Maritime Dangerous Goods.
 IMO: International Maritime Organization.
 PBT: Persistent, bioaccumulative and toxic.
 RID: Regulations concerning the International Carriage of Dangerous Goods by Rail.
 STEL: Short term exposure limit.
 TWA: Time Weighted Average.
 vPvB: Very persistent and very bioaccumulative.

References

Chemical safety report.
 CONCAWE
 ECHA: European Chemical Agency.

Information on evaluation method leading to the classification of mixture

Not applicable.

Full text of any statements, which are not written out in full under sections 2 to 15

H304 May be fatal if swallowed and enters airways.
 H332 Harmful if inhaled.
 H350 May cause cancer.
 H361d Suspected of damaging the unborn child.
 H373 May cause damage to organs through prolonged or repeated exposure.
 H410 Very toxic to aquatic life with long lasting effects.

Training information

Follow training instructions when handling this material.

Disclaimer

The information in this Safety Data Sheet (SDS) was obtained from sources believed to be reliable and accurate, and is not represented as being absolutely complete. The end user of this product has the responsibility for evaluating the adequacy of the data for the intended application and conditions of use; for determining the safety, toxicity, regulatory requirements, and suitability of the product under these conditions; and for obtaining additional or clarifying data where uncertainty exists. The data serves as general guidance only, and is to be used in combination with professional judgement of persons experienced in a specific application, use or process; and additional data may be required.