

# SAFETY DATA SHEET

GHS  
Australia

## Section 1. Product and company identification

<b>Product name</b>	<b>MOLYVAN® 3000</b>	<b><u>In case of emergency</u></b>
<b>Code</b>	31508	1-203-853-1400
<b>Supplier/Manufacturer</b>	Vanderbilt Chemicals, LLC 30 Winfield Street Norwalk, CT 06855	Chemtrec: 1-800-424-9300 Outside US: +1-703-527-3887

<b>Chemical name</b>	molybdenum dialkyldithiocarbamate
<b>Synonym</b>	Molybdenum dialkyldithiocarbamate in petroleum process oil.
<b>Material uses</b>	Friction reducer  This SDS is for Jurisdictions Outside the USA, Canada, Japan and the European Union - This product is registered in the USA, Canada, Japan and the European Union as CAS# 906665-74-5. If you have any questions please call the Product Risk Manager at Vanderbilt Global Services, LLC.
<b>Product type</b>	Liquid.

### Relevant identified uses of the substance or mixture and uses advised against

Not applicable.

## Section 2. Hazards identification

<b>Classification of the substance or mixture</b>	Not classified.  Percentage of the mixture consisting of ingredient(s) of unknown acute dermal toxicity: 65 - 70% Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 100%
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### GHS label elements

<b>Signal word</b>	No signal word.
<b>Hazard statements</b>	No known significant effects or critical hazards.
<b><u>Precautionary statements</u></b>	
<b>Prevention</b>	Not applicable.
<b>Response</b>	Not applicable.
<b>Storage</b>	Not applicable.
<b>Disposal</b>	Not applicable.
<b>Supplemental label elements</b>	Not applicable.

<b>Other hazards which do not result in classification</b>	None known.
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## Section 3. Composition/information on ingredients

Substance/mixture Mixture

Ingredient name	CAS number	% by weight
molybdenum, bis(ditridecylcarbamodithioato) di-u-oxodioxo-di-,sulfurized	71342-89-7	65 - 70
petroleum process oil, <3.0% DMSO extractable material	64742-52-5	30 - 35

Occupational exposure limits, if available, are listed in Section 8.

## Section 4. First aid measures

### Description of necessary first aid measures

<b>Eye contact</b>	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
<b>Inhalation</b>	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
<b>Skin contact</b>	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
<b>Ingestion</b>	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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 medical personnel. Get medical attention if symptoms occur.

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

#### Potential acute health effects

<b>Eye contact</b>	No known significant effects or critical hazards.
<b>Inhalation</b>	No known significant effects or critical hazards.
<b>Skin contact</b>	No known significant effects or critical hazards.
<b>Ingestion</b>	No known significant effects or critical hazards.

#### Over-exposure signs/symptoms

<b>Eye contact</b>	No specific data.
<b>Inhalation</b>	No specific data.
<b>Skin contact</b>	No specific data.
<b>Ingestion</b>	No specific data.

### Indication of immediate medical attention and special treatment needed, if necessary

<b>Notes to physician</b>	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
<b>Specific treatments</b>	No specific treatment.
<b>Protection of first-aiders</b>	No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

**Suitable extinguishing media** Use an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing media** None known.

### Specific hazards arising from the chemical

In a fire or if heated, a pressure increase will occur and the container may burst.

### Hazardous thermal decomposition products

Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
metal oxide/oxides

### Special protective actions for fire-fighters

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

### Special protective equipment for fire-fighters

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel** No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.

**For emergency responders** If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

### Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### Methods and materials for containment and cleaning up

**Small spill** Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

**Large spill** Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## Section 7. Handling and storage

### Precautions for safe handling

#### Protective measures

Put on appropriate personal protective equipment (see Section 8).

#### Advice on general occupational hygiene

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

#### Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

This product has a tendency upon standing to exhibit some crystallization or gelling. If this happens, the product may be re-liquified by agitation and heating at 40 to 50°C.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
molybdenum, bis(ditridecylcarbamodithioato) di-u-oxodioxo-di-, sulfurized petroleum process oil, <3.0% DMSO extractable material	<b>Safe Work Australia (Australia, 1/2014).</b> TWA: 10 mg/m <sup>3</sup> , (as Mo) 8 hours. <b>Safe Work Australia (Australia, 1/2014).</b> TWA: 5 mg/m <sup>3</sup> 8 hours. Form: mist

#### Appropriate engineering controls

Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

#### Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures

#### Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

#### Eye/face protection

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields. Recommended: splash goggles

#### Skin protection

##### Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

## Section 8. Exposure controls/personal protection

### 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. Recommended: lab coat

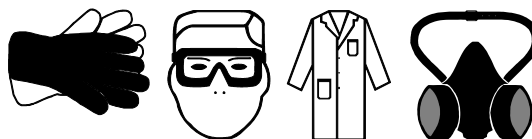
### Other skin protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

### Respiratory protection

Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Recommended: Vapor and dust respirator.

### Personal protective equipment (Pictograms)



## Section 9. Physical and chemical properties

### Appearance

Physical state	Liquid.
Color	Red to brown
Odor	Mineral Oil [Slight]
Odor threshold	Not available.
pH	Not available.
Melting point	Not available.
Boiling point	Not available.
Flash point	Closed cup: 160 to 180°C (320 to 356°F) [Pensky-Martens.]
Burning time	Not applicable.
Burning rate	Not applicable.
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Lower and upper explosive (flammable) limits	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Density	Not available.
Relative density	1.03 to 1.07
Solubility	Insoluble in the following materials: cold water.
Solubility in water	Not available.
Partition coefficient: n-octanol/water	Not applicable.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
SADT	Not available.
Viscosity	Kinematic: 651 mm <sup>2</sup> /s (651 cSt) [at 25°C]

## Section 10. Stability and reactivity

<b>Reactivity</b>	No specific test data related to reactivity available for this product or its ingredients.
<b>Chemical stability</b>	The product is stable.
<b>Possibility of hazardous reactions</b>	Under normal conditions of storage and use, hazardous reactions will not occur.
<b>Conditions to avoid</b>	No specific data.
<b>Incompatible materials</b>	No specific data.
<b>Hazardous decomposition products</b>	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
petroleum process oil, <3.0% DMSO extractable material	LD50 Dermal	Rabbit	>2000 mg/kg	-
molybdenum, bis (ditridecylcarbomodithioato) di-u-oxodioxo-di-,sulfurized	LD50 Oral	Rat	>5000 mg/kg	-
	LD50 Oral	Rat	>2000 mg/kg	-

#### Conclusion/Summary

Both molybdenum (insoluble) and oil mist (mineral) are believed to have a low order of toxicity. Molybdenum at high oral dosages has produced weight loss, anorexia, liver and kidney damage in animals but few signs and symptoms in humans have been recorded during normal usage. Oil mists (unless contaminated with endotoxins or high volatile organics) have produced few adverse effects. Mild decrements in lung function, however, have more recently been reported with repeated elevated exposures.

#### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
MOLYVAN® 3000	This product does not cause skin irritation and eye irritation.				

#### Conclusion/Summary

##### Skin

molybdenum, bis(ditridecylcarbomodithioato) di-u-oxodioxo-di-,sulfurized: Non-irritating to the skin. (Reconstructed Human Epidermis Test Method)

##### Eyes

molybdenum, bis(ditridecylcarbomodithioato) di-u-oxodioxo-di-,sulfurized: Non-irritating to the eyes. (Bovine Corneal Opacity and Permeability Test Method)

#### Sensitization

## Section 11. Toxicological information

Product/ingredient name	Route of exposure	Species	Result
molybdenum, bis (ditridecylcarbamodithioato) di-u-oxodioxo-di-,sulfurized	skin	Guinea pig	Not sensitizing

### Conclusion/Summary

#### **Skin**

This product does not cause skin sensitization.

### Mutagenicity

Product/ingredient name	Test	Experiment	Result
molybdenum, bis (ditridecylcarbamodithioato) di-u-oxodioxo-di-,sulfurized	OECD 471	Experiment: In vitro Subject: Bacteria	Negative
	OECD 490	Experiment: In vitro Subject: Mammalian-Animal	Negative
	OECD 487	Experiment: In vitro Subject: Mammalian-Human	Negative

### Conclusion/Summary

Does not contain any substances known to be mutagenic.

### Carcinogenicity

Not available.

### Reproductive toxicity

Not available.

### Conclusion/Summary

molybdenum, bis(ditridecylcarbamodithioato) di-u-oxodioxo-di-,sulfurized: Oral administration of the test item to parental rats at dose levels of 100, 330 or 1000 mg/kg/day for five weeks to males and for two weeks before pairing, throughout gestation and up to Day 13 of lactation in females was well-tolerated with no adverse effect observed.

Reproductive performance, fertility and offspring survival were unaffected by parental treatment. There was no effect of treatment on the number of implantations, litter size or the growth of the offspring.

In the context of this study, the test item showed no evidence of being an endocrine disruptor. The No-observed-adverse-effect-level (NOAEL) of the test item for systemic toxicity and for reproductive/developmental effects was considered to be 1000 mg/kg/day, the limit dose tested.

### Teratogenicity

Not available.

### Specific target organ toxicity (single exposure)

Not available.

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

## Section 11. Toxicological information

Not available.

### Information on the likely routes of exposure

Routes of entry anticipated: Oral, Inhalation.

### Potential acute health effects

<b>Eye contact</b>	No known significant effects or critical hazards.
<b>Inhalation</b>	No known significant effects or critical hazards.
<b>Skin contact</b>	No known significant effects or critical hazards.
<b>Ingestion</b>	May be harmful if swallowed.

### Symptoms related to the physical, chemical and toxicological characteristics

<b>Eye contact</b>	No specific data.
<b>Inhalation</b>	No specific data.
<b>Skin contact</b>	No specific data.
<b>Ingestion</b>	No specific data.

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure

<b>Potential immediate effects</b>	Not available.
<b>Potential delayed effects</b>	Not available.

#### Long term exposure

<b>Potential immediate effects</b>	Not available.
<b>Potential delayed effects</b>	Not available.

#### Potential chronic health effects

Not available.

**Conclusion/Summary** molybdenum, bis(ditridecylcarbamodithioato) di-u-oxodioxo-di-,sulfurized: In a study performed to the standardized guidelines OECD 422, the No-observed-adverse-effect-level (NOAEL) of the test item for systemic toxicity effects was considered to be 1000 mg/kg/day.

<b>General</b>	No known significant effects or critical hazards.
<b>Carcinogenicity</b>	No known significant effects or critical hazards.
<b>Mutagenicity</b>	No known significant effects or critical hazards.
<b>Teratogenicity</b>	No known significant effects or critical hazards.
<b>Developmental effects</b>	No known significant effects or critical hazards.
<b>Fertility effects</b>	No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

Route	ATE value
Oral	3703.7 mg/kg



## Section 11. Toxicological information

### Other information

Not available.

## Section 12. Ecological information

### Toxicity

Product/ingredient name	Result	Species	Exposure
petroleum process oil, <3.0% DMSO extractable material	Acute EL50 >10000 mg/l (Based on tests of similar materials)	Daphnia	48 hours
	Acute LL50 >100 mg/l (Based on tests of similar materials)	Fish	96 hours
	Acute NOEL ≥100 mg/l (Based on tests of similar materials)	Algae	72 hours
	Acute NOEL ≥1000 mg/l (Based on tests of similar materials)	Daphnia	48 hours
	Acute NOEL ≥100 mg/l (Based on tests of similar materials)	Fish	96 hours
molybdenum, bis (ditridecylcarbomodithioato) di-u-oxodioxo-di-,sulfurized	Acute EC50 11 mg/l	Algae	72 hours
	Acute EC50 82 mg/l	Daphnia	48 hours
	Acute EC50 >1000 mg/l	Micro-organism	3 hours
	Acute LC50 >100 mg/l	Fish	96 hours

### Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
molybdenum, bis (ditridecylcarbomodithioato) di-u-oxodioxo-di-,sulfurized	OECD 301B	8 % - Not readily - 28 days	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
molybdenum, bis (ditridecylcarbomodithioato) di-u-oxodioxo-di-,sulfurized	-	-	Not readily
petroleum process oil, <3.0% DMSO extractable material	-	-	Not readily (Based on tests of similar materials)

### Bioaccumulative potential

Not available.

### Mobility in soil

#### Soil/water partition coefficient (K<sub>oc</sub>)

Not available.

#### Other adverse effects

No known significant effects or critical hazards.

## Section 13. Disposal considerations

### Disposal methods

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## Section 14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
<b>DOT Classification</b>	Not regulated.	-	-	-		-
<b>TDG Classification</b>	Not regulated.	-	-	-		-
<b>ADR/RID Class</b>	Not regulated.	-	-	-		-
<b>IMDG Class</b>	Not regulated.	-	-	-		-
<b>IATA-DGR Class</b>	Not regulated.	-	-	-		-

PG\* : Packing group

## Section 15. Regulatory information

### Standard for the Uniform Scheduling of Medicines and Poisons

Not regulated.

### Model Work Health and Safety Regulations - Scheduled Substances

No listed substance

### International regulations

#### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

#### Montreal Protocol

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

Not listed.

#### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

#### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

## Section 15. Regulatory information

### International lists

<b>Australia Inventory (AIIIC)</b>	All components are listed or exempted.
<b>Canada Inventory</b>	All components are listed or exempted.
<b>China Inventory (IECSC)</b>	All components are listed or exempted.
<b>Europe inventory</b>	All components are listed or exempted. 35. Lubricants and additives Substances inserted to reduce friction between two surfaces.
<b>Japan Inventory (CSCL)</b>	All components are listed or exempted.
<b>Korea inventory (KECI)</b>	All components are listed or exempted.
<b>New Zealand Inventory of Chemicals (NZIoC)</b>	All components are listed or exempted.
<b>Philippines Inventory (PICCS)</b>	All components are listed or exempted.
<b>Taiwan Chemical Substances Inventory (TCSI)</b>	All components are listed or exempted.
<b>United States Inventory (TSCA 8b)</b>	All components are active or exempted.

This SDS is for Jurisdictions Outside the USA, Canada, Japan and the European Union - This product is registered in the USA, Canada, Japan and the European Union as CAS# 906665-74-5. If you have any questions please call the Product Risk Manager at Vanderbilt Global Services, LLC.

## Section 16. Other information

### History

<b>Date of printing</b>	5/22/2023
<b>Validation date</b>	5/22/2023
<b>Date of previous issue</b>	6/13/2022
<b>Version</b>	4
<b>Key to abbreviations</b>	ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association IBC = Intermediate Bulk Container IMDG = International Maritime Dangerous Goods LogPow = logarithm of the octanol/water partition coefficient MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) UN = United Nations

### References

molybdenum, bis(ditridecylcarbamodithioato) di-u-oxodioxo-di-,sulfurized (CAS 71342-89-7):

Envigo Research Limited 2018: Assessment of Ready Biodegradability; CO2 Evolution in Test Material (study report), Testing laboratory: Envigo Research Limited Shardlow Business Park Shardlow Derbyshire DE72 2GD UK, Report no: XR67SF. Owner company; Vanderbilt Chemicals, LLC 30 Winfield Street Norwalk, CT 06856 UNITED STATES OF AMERICA, Report date: Aug 15, 2018

2018: Assessment of toxicokinetic effects of the test item based upon available study data. (Assessment), Testing laboratory: The Acta Group EU, Ltd., Owner company; Vanderbilt Chemicals, LLC, Report date:

## Section 16. Other information

1996: An Acute Oral Toxicity Study in Rats with the Test Material (study report), Testing laboratory: Springborn Laboratoris, INc 640 North Elizabeth Street, Spencerville OH 45887, Report no: 3248.29. Owner company; R.T. Vanderbilt Company, Report date:

Envigo Research Limited 2018: Determination of Skin Irritation Potential using the EPISKIN™ Reconstructed Human Epidermis Model of the Test Material (study report), Testing laboratory: Envigo Research Limited Shardlow Business Park Shardlow Derbyshire DE72 2GD UK, Report no: FY17MR. Owner company; Vanderbilt Chemicals, LLC, Report date: Apr 16, 2018

Envigo Research Limited 2018: The Bovine Corneal Opacity and Permeability (BCOP) Assay Using the Test Material (study report), Testing laboratory: Envigo Research Limited, Shardlow Business Park, Shardlow, Derbyshire, DE72 2GD, UK, Report no: DQ51LG. Owner company; Vanderbilt Chemicals, LLC 30 Winfield Street Norwalk, CT 06856 UNITED STATES OF AMERICA, Report date: Sep 14, 2018

SafePharm Laboratories Limited 2002: Skin sensitisation in the guinea pig -Magnusson and Kligman maximisation method (study report), Testing laboratory: SafePharm Laboratories Limited, P.O. Box No. 45, DERBY, DE1 2BT, Report no: 860/071. Owner company; R.T. Vanderbilt Company, Inc., Report date: Dec 11, 2002

Envigo CRS Limited 2018: Combined Repeated Dose Toxicity Study and Reproductive/ Developmental Toxicity Screening Study in the Rat by Oral Administration (study report), Testing laboratory: Envigo CRS Limited, Eye, Suffolk, IP23 7PX, UK, Report no: XB62DF. Owner company; Vanderbilt Chemicals, LLC 30 Winfield Street Norwalk, CT 06855 UNITED STATES OF AMERICA, Report date: Sep 6, 2018

Envigo CRS Limited 2018: Fourteen Day Repeated Dose Oral Gavage Range Finding Toxicity Study in the Rat (study report), Testing laboratory: Envigo CRS Limited Eye Suffolk IP23 7PX UK, Report no: YF09SB. Owner company; Vanderbilt Chemicals, LLC, Report date: Aug 17, 2018

Safepharm Laboratories Limited 1997: Bacterial Reverse Mutation Assay "Ames Test" (study report), Testing laboratory: Safepharm Laboratories Limited, P.O. Box No. 5, Derby, DE1 2BT, UK, Report no: 860/024. Owner company; R.T. Vanderbilt Company, Inc., 30 Winfield Street, Norwalk, CT 06855, USA, Report date: May 21, 1997

BioReliance Corporation 2018: In Vitro Mammalian Cell Micronucleus Assay in Human Peripheral Blood Lymphocytes (HPBL) (study report), Testing laboratory: BioReliance Corporation 9630 Medical Center Drive Rockville, MD 20850, Report no: AF01EL. 348REACH.BTL. Owner company; Vanderbilt Chemicals, LLC, 30 Winfield Street, Norwalk, CT 06856, Report date:

BioReliance Corporation 2018: In Vitro Mammalian Cell Gene Mutation Test (L5178Y/ TK+/- Mouse Lymphoma Assay) (study report), Testing laboratory: BioReliance Corporation, 9630 Medical Center Drive, Rockville, MD 20850, Report no: AF01EL. 704REACH.BTL. Owner company; Vanderbilt Chemicals, LLC, 30 Winfield Street, Norwalk, CT 06856, Report date:

Smithers Viscient (ESG) Ltd. 2018: Determination of Physicochemical Properties (study report), Testing laboratory: Smithers Viscient (ESG) Ltd. 108 Woodfield Drive, Harrogate North Yorkshire HG1 4LS, UK, Report no: 3202005. Owner company; Vanderbilt Chemicals, LLC 30 Winfield Street Norwalk, CT 06856, USA, Report date: Jul 20, 2018

Dekra Insight 2018: Oxidising Properties Testing on a Sample of the Test Material (study report), Testing laboratory: Dekra Insight subcontractor for Smithers Viscient Smithers Viscient (ESG) Ltd 108 Woodfield Drive Harrogate HG1 4LS UK, Report no:

## Section 16. Other information

3202005. Owner company; Vanderbilt Chemicals, LLC 30 Winfield Street Norwalk, CT 06856, USA, Report date: Jul 20, 2018

Envigo Research Limited 2018: Acute Toxicity to Rainbow Trout (study report), Testing laboratory: Envigo Research Limited, Shardlow Business Park, Shardlow, Derbyshire, DE72 2GD, UK, Report no: BN43WD. Owner company; Vanderbilt Chemicals, LLC, 30 Winfield Street, Norwalk, CT 06856, USA, Report date: Sep 9, 2018

Envigo Research Limited 2018: Daphnia sp., 48 Hour Acute Immobilization Test (study report), Testing laboratory: Envigo Research Limited, Shardlow Business Park, Shardlow, Derbyshire, DE72 2GD, UK, Report no: XS85DY. Owner company; Vanderbilt Chemicals, LLC, 30 Winfield Street, Norwalk, CT 06856, USA, Report date: Sep 14, 2018

Envigo Research Limited 2018: Algal Growth Inhibition Test (study report), Testing laboratory: Envigo Research Limited, Shardlow Business Park, Shardlow, Derbyshire, DE72 2GD, UK, Report no: WH46XK. Owner company; Vanderbilt Chemicals, LLC, 30 Winfield Street, Norwalk, CT 06856, USA, Report date: Aug 24, 2018

Envigo Research Limited 2018: Toxicity to Activated Sludge in a Respiration Inhibition Test (study report), Testing laboratory: Envigo Research Limited, Shardlow Business Park, Shardlow, Derbyshire, DE72 2GD, UK, Report no: NP17KM. Owner company; Vanderbilt Chemicals, LLC, 30 Winfield Street, Norwalk, CT 06856, USA, Report date: Jul 17, 2018

petroleum process oil, <3.0% DMSO extractable material (CAS 64742-52-5):

<https://echa.europa.eu/registration-dossier/-/registered-dossier/15709>

### Information contact

**Vanderbilt Global Services, LLC**  
**Corporate Risk Management**  
**1-203-295-2143**

Visit [www.vanderbiltchemicals.com](http://www.vanderbiltchemicals.com) for more information.

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