Vanderbilt Chemicals, LLC
A Wholly Owned Subsidiary of R.T. Vanderbilt Holding Company, Inc.

SAFETY DATA SHEET

Europe
English

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

1.1 Product identifier

Product name	METHYL SELENAC®
Product Code	37409
Chemical name	Carbamodithioic acid, dimethyl, tetraanhydrosulfide with orthioselenious acid.
Synonyms	Selenium dimethyldithiocarbamate
EC number	Not available.
Use of the substance/ mixture	Rubber accelerator.
CAS number	Not available.
Product description	Mono-constituent substance
Product type	Powder.
Other means of identification	Selenium dimethyldithiocarbamate

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

Rubber accelerator.

1.3 Details of the supplier of the safety data sheet

Vanderbilt Chemicals, LLC
30 Winfield Street
Norwalk, CT 06855

e-mail address of person responsible for this SDS MSDS@vanderbiltglobalservices.com

1.4 Emergency telephone number

National advisory body/Poison Center

Telephone number	Chemtrec: +1-800-424-9300 Outside US: +1-703-527-3887

Supplier

Telephone number	+1-203-853-1400
Hours of operation	24 hours

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition Mono-constituent substance

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

SECTION 2: Hazards identification

Acute Tox. 3, H301
Acute Tox. 3, H331
STOT RE 2, H373
Aquatic Acute 1, H400
Aquatic Chronic 1, H410

Classification according to Directive 67/548/EEC [DSD]

T; R23
Xn; R22
R33
N; R50/53

See Section 16 for the full text of the R phrases or H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms

Signal word Danger

Hazard statements Toxic if swallowed or if inhaled.
May cause damage to organs through prolonged or repeated exposure.
Very toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention Use only outdoors or in a well-ventilated area. Avoid release to the environment. Do not breathe dust or mist.

Response IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. IF SWALLOWED: Immediately call a POISON CENTER or physician.

Storage Store locked up.

Disposal Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements Not applicable.

Special packaging requirements

Containers to be fitted with child-resistant fastenings Not applicable.

Tactile warning of danger Not applicable.

2.3 Other hazards

Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII Not available.

Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII Not available.

Other hazards which do not result in classification Fine dust clouds may form explosive mixtures with air. Handling and/or processing of this material may generate a dust which can cause mechanical irritation of the eyes, skin, nose and throat.

SECTION 3: Composition/information on ingredients

Substance/mixture Mono-constituent substance

Product/ingredient name	Identifiers	% by weight	Classification		Type
			67/548/EEC	Regulation (EC) No. 1272/2008 [CLP]	
selenium, tetrakis (dimethyldithiocarbamate)-	EC: 205-624-9 CAS: 144-34-3 Index: 034-002-00-8	100	T; R23/25 R33 N; R50/53	Acute Tox. 3, H301 Acute Tox. 3, H331 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	[A]

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

See Section 16 for the full text of the R-phrases declared above.

See Section 16 for the full text of the H statements declared above.

Type

[A] Constituent
[B] Impurity
[C] Stabilizing additive

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

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention following exposure or if feeling unwell.

Inhalation Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Skin contact Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention following exposure or if feeling unwell. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. 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. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

SECTION 4: First aid measures

Protection of first-aiders No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eye contact Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the eyes.

Inhalation Toxic if inhaled. Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Skin contact No known significant effects or critical hazards.

Ingestion Toxic if swallowed.

Over-exposure signs/symptoms

Eye contact Adverse symptoms may include the following:
irritation
redness

Inhalation Adverse symptoms may include the following:
respiratory tract irritation
coughing

Skin contact No specific data.

Ingestion No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media Use dry chemical powder.

Unsuitable extinguishing media Do not use water jet.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture Fine dust clouds may form explosive mixtures with air. This material is very toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous combustion products Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
sulfur oxides

5.3 Advice for firefighters

SECTION 5: Firefighting measures

Special precautions 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. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

Additional information

This material may form flammable dust-air mixtures. Potential for a dust explosion may exist. Depending upon conditions, dust may be sensitive to static discharge. As with any dry material, pouring or allowing to free-fall or to be conveyed through chutes or pipes can accumulate and generate electrostatic sparks, potentially causing ignition of the material itself, or of any flammable materials which may come in contact with the material or its container.

SECTION 6: Accidental release measures

6.1 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. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe dust. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders

If specialised 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".

6.2 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). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

6.3 Methods and materials for containment and cleaning up

Small spill

Move containers from spill area. Vacuum or sweep up material and place in a designated, labeled waste container. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor.

Large spill

Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Avoid creating dusty conditions and prevent wind dispersal. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor.

6.4 Reference to other sections

See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

SECTION 7: Handling and storage

Protective measures

Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe dust. Do not ingest. Avoid release to the environment. Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Prevent dust accumulation. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Electrical equipment and lighting should be protected to appropriate standards to prevent dust coming into contact with hot surfaces, sparks or other ignition sources. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.

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.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in a segregated and approved area. 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. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. 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.

7.3 Specific end use(s)

Recommendations

Not available.

Industrial sector specific solutions

Not available.

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
selenium, tetrakis(dimethyldithiocarbamate)-	**ACGIH TLV (United States, 1/2009). Notes: as Se** TWA: 0.2 mg/m³, (as Se) 8 hours.

Recommended monitoring procedures

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

SECTION 8: Exposure controls/personal protection

Derived effect levels

No DELs available.

Predicted effect concentrations

No PECs available.

8.2 Exposure controls

Appropriate engineering controls

Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

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. If operating conditions cause high dust concentrations to be produced, use dust goggles. 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. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. > 8 hours (breakthrough time): neoprene

Recommended: Protective gloves should be worn under normal conditions of use.

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.

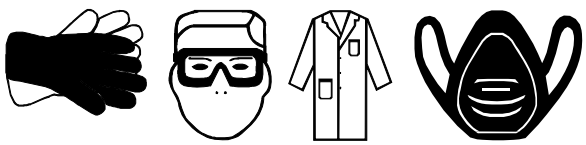
Respiratory protection

Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Recommended: Dust respirator.

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.

Personal protective equipment (Pictograms)



SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	
Physical state	Solid. [Powder.]
Color	Yellow.
Odor	Not available.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	140 to 172°C (284 to 341.6°F)
Initial boiling point and boiling range	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Burning time	Not available.
Burning rate	Not available.
Upper/lower flammability or explosive limits	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Density	1.58 g/cm³ [25°C (77°F)]
Relative density	1.58
Partition coefficient: n-octanol/ water	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Explosive properties	This material may form flammable dust-air mixtures. Potential for a dust explosion may exist. Depending upon conditions, dust may be sensitive to static discharge. As with any dry material, pouring or allowing to free-fall or to be conveyed through chutes or pipes can accumulate and generate electrostatic sparks, potentially causing ignition of the material itself, or of any flammable materials which may come in contact with the material or its container.
Oxidizing properties	Not available.
Solubility(ies)	Insoluble in the following materials: cold water.
Physical/chemical properties comments	Soluble in toluene.

9.2 Other information

SADT	Not available.

SECTION 10: Stability and reactivity

10.1 Reactivity	No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability	The product is stable.
10.3 Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur.

SECTION 10: Stability and reactivity

10.4 Conditions to avoid

Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Prevent dust accumulation.

10.5 Incompatible materials

Reactive or incompatible with the following materials:
oxidizing materials

10.6 Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

10.7 Incompatibility with various substances

Not available.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
METHYL SELENAC®	LD50 Oral	Rat	>200 mg/kg	-

Conclusion/Summary Not available.

Irritation/Corrosion

Conclusion/Summary

Eyes Mild corneal opacity, iritis and marked conjunctivitis in rabbits.

Respiratory Inhalation of dust may be harmful.

Sensitizer

Conclusion/Summary Not available.

Mutagenicity

Conclusion/Summary Not available.

Carcinogenicity

Conclusion/Summary Not available.

Reproductive toxicity

Conclusion/Summary Not available.

Teratogenicity

Conclusion/Summary Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
selenium, tetrakis(dimethyldithiocarbamate)-	Category 2	Not determined	Not determined

Aspiration hazard

Not available.

Information on the likely routes of exposure

Routes of entry anticipated: Oral, Inhalation.

SECTION 11: Toxicological information

Potential acute health effects

Inhalation Toxic if inhaled. Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Ingestion Toxic if swallowed.

Skin contact No known significant effects or critical hazards.

Eye contact Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the eyes.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation Adverse symptoms may include the following:
respiratory tract irritation
coughing

Ingestion No specific data.

Skin contact No specific data.

Eye contact Adverse symptoms may include the following:
irritation
redness

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

Short term exposure

Potential immediate effects Not available.

Potential delayed effects Not available.

Long term exposure

Potential immediate effects Not available.

Potential delayed effects Not available.

Potential chronic health effects

Not available.

Conclusion/Summary Not available.

General May cause damage to organs through prolonged or repeated exposure. Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation.

Carcinogenicity No known significant effects or critical hazards.

Mutagenicity No known significant effects or critical hazards.

Teratogenicity No known significant effects or critical hazards.

Developmental effects No known significant effects or critical hazards.

Fertility effects No known significant effects or critical hazards.

Other information Not available.

SECTION 12: Ecological information

12.1 Toxicity

Conclusion/Summary Not available.

12.2 Persistence and degradability

Conclusion/Summary Not available.

12.3 Bioaccumulative potential

Not available.

SECTION 12: Ecological information

12.4 Mobility in soil

Soil/water partition coefficient (K_{OC}) Not available.

Mobility Not available.

12.5 Results of PBT and vPvB assessment

PBT Not available.

P: Not available. B: Not available. T: Yes.

vPvB Not available.

vP: Not available. vB: Not available.

12.6 Other adverse effects

No known significant effects or critical hazards.

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product

Methods of disposal 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.

Hazardous waste The classification of the product may meet the criteria for a hazardous waste.

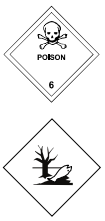
Packaging

Methods of disposal The generation of waste should be avoided or minimized wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

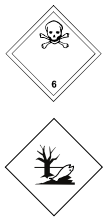
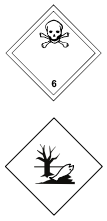
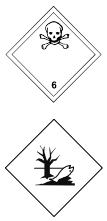
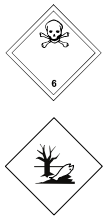
Special precautions This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

14.1 International transport regulations

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT Classification	3283	Selenium compounds, solid, n.o.s. (selenium dimethyldithiocarbamate)	6.1	III		**Remarks** Marine pollutant

SECTION 14: Transport information

TDG Classification	3283	Selenium compounds, solid, n.o.s. (selenium dimethyldithiocarbamate)	6.1	III		**Remarks** Marine pollutant
ADR/RID Class	3283	Selenium compounds, solid, n.o.s. (selenium dimethyldithiocarbamate)	6.1	III		**Remarks** Marine pollutant
IMDG Class	3283	Selenium compounds, solid, n.o.s. (selenium dimethyldithiocarbamate)	6.1	III		**Remarks** Marine pollutant
IATA-DGR Class	3283	Selenium compounds, solid, n.o.s. (selenium dimethyldithiocarbamate)	6.1	III		**Remarks** Marine pollutant

PG* : Packing group

SECTION 15: Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorization

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles Not applicable.

Other EU regulations

Europe inventory All components are listed or exempted.

Black List Chemicals Not listed

Priority List Chemicals Not listed

Integrated pollution prevention and control list (IPPC) - Air Not listed

SECTION 15: Regulatory information

Integrated pollution prevention and control list (IPPC) - Water	Not listed
Water Hazard Class (WGK)	3 Appendix No. 3

International regulations

United States inventory (TSCA 8b)	All components are listed or exempted.
Canada inventory	At least one component is not listed in DSL but all such components are listed in NDSL.
Europe inventory	All components are listed or exempted.
Australia inventory (AICS)	Not determined.
China inventory (IECSC)	Not determined.
Japan inventory	Not determined.
Korea inventory	Not determined.
New Zealand Inventory of Chemicals (NZIoC)	Not determined.
Philippines inventory (PICCS)	Not determined.

15.2 Chemical Safety Assessment	This product contains substances for which Chemical Safety Assessments are still required.

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms

ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number

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

Classification	Justification
Acute Tox. 3, H301	On basis of test data
Acute Tox. 3, H331	Calculation method
STOT RE 2, H373	Calculation method
Aquatic Acute 1, H400	Calculation method
Aquatic Chronic 1, H410	Calculation method

Full text of abbreviated H statements

H301 Toxic if swallowed.
H331 Toxic if inhaled.
H373 May cause damage to organs through prolonged or repeated exposure.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.

Full text of classifications [CLP/GHS]

Acute Tox. 3, H301	ACUTE TOXICITY: ORAL - Category 3
Acute Tox. 3, H331	ACUTE TOXICITY: INHALATION - Category 3
Aquatic Acute 1, H400	AQUATIC TOXICITY (ACUTE) - Category 1
Aquatic Chronic 1, H410	AQUATIC TOXICITY (CHRONIC) - Category 1
STOT RE 2, H373	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

SECTION 16: Other information

Full text of abbreviated R phrases	R23- Toxic by inhalation. R23/25- Toxic by inhalation and if swallowed. R22- Harmful if swallowed. R33- Danger of cumulative effects. R50/53- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Full text of classifications [DSD/DPD]	T - Toxic Xn - Harmful N - Dangerous for the environment
History	
Date of printing	2/5/2013.
Date of issue/ Date of revision	2/5/2013.
Date of previous issue	No previous validation.
Version	1
Information contact	**Vanderbilt Global Services, LLC** **Corporate Risk Management** **1-203-295-2143**

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