

NEMESIS SILVER SC

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SAFETY DATA SHEET

NEMESIS SILVER SC

Section 1. Identification

GHS product identifier : NEMESIS SILVER SC

Chemical name: MixtureCAS number: MixtureOther means of identification: CC10241760

Product type : solid

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

Product use : Industrial applications. Plastics.

Supplier's details : POLYONE CORPORATION

33587 Walker Road, Avon Lake, OH 44012

1 (440) 930-1000 or 1 (866) POLYONE

Emergency telephone number

(with hours of operation)

CHEMTREC 1-800-424-9300 (24hrs for spill, leak, fire, exposure or

accident).

Section 2. Hazards identification

This mixture has not been evaluated as a whole. Information provided on the health effects of this product is based on individual components. All ingredients are bound and potential for hazardous exposure as shipped is minimal. However, some vapors may be released upon heating and the end-user (fabricator) must take the necessary precautions (mechanical ventilation, respiratory protection, etc.) to protect employees from exposure. After handling, always wash hands thoroughly with soap and water.

OSHA/HCS status : While this material is not considered hazardous by the OSHA Hazard

Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and

other users of this product.

Classification of the substance or

mixture

Not classified.

GHS label elements

Signal word : No signal word.

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Hazard statements: No known significant effects or critical hazards.

Precautionary statements

General : Not applicable.
Prevention : Not applicable.
Response : Not applicable.
Storage : Not applicable.
Disposal : Not applicable.
Supplemental label elements : None known.
Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture: MixtureChemical name: MixtureOther means of identification: CC10241760

CAS number/other identifiers

| Ingredient name | % | CAS number |
|------------------|--------|------------|
| Titanium dioxide | 5 - 10 | 13463-67-7 |
| | | |
| | | |
| Carbon black | 1 - 3 | 1333-86-4 |
| | | |
| | | |

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

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

Section 4. First aid measures

Description of necessary 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.



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Get medical attention if irritation occurs.

Inhalation: Remove victim to fresh air and keep at rest in a position comfortable

for breathing. Get medical attention if symptoms occur. 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. Get medical attention if symptoms occur.

Ingestion : 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

Eye contact: No known significant effects or critical hazards.Inhalation: No known significant effects or critical hazards.Skin contact: No known significant effects or critical hazards.Ingestion: No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact:No specific data.Inhalation:No specific data.Skin contact:No specific data.Ingestion:No specific data.

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

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.

Protection of first-aiders : No action shall be taken involving any personal risk or without

suitable training.

See toxicological information (Section 11)

Section 5. Fire-fighting measures



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Extinguishing media

Suitable extinguishing media Unsuitable extinguishing media In case of fire, use water spray (fog), foam, dry chemical or CO_2 .

: None known.

Specific hazards arising from the chemical

: No specific fire or explosion hazard.

Hazardous thermal decomposition products

Decomposition products may include the following materials:

carbon dioxide carbon monoxide nitrogen oxides phosphorus oxides metal oxide/oxides

Special protective actions for firefighters : 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 selfcontained 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 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".

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 : Move containers from spill area. Vacuum or sweep up material and

place in a designated, labeled waste container. Dispose of via a

licensed waste disposal contractor.

Large spill : Move containers from spill area. Prevent entry into sewers, water

courses, basements or confined areas. Vacuum or sweep up material



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and place in a designated, labeled waste container. 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 Advice on general occupational

hygiene

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

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.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

| Ingredient name | Exposure limits |
|-----------------|---|
| Carbon black | OSHA PEL 1989 (1989-03-01) |
| | PEL: Permissible Exposure Level 3.5 mg/m3 |
| | OSHA PEL (1993-06-30) |
| | PEL: Permissible Exposure Level 3.5 mg/m3 |
| | NIOSH REL (1994-06-01) |
| | Time Weighted Average (TWA) 3.5 mg/m3 |
| | Time Weighted Average (TWA) |
| | ACGIH TLV (2010-12-06) |
| | TLV-TWA: Threshold Limit Value - Time weighted average PEL: |
| | Permissible Exposure Level 3 mg/m3 Form: Inhalable fraction |
| | |



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| Titanium dioxide | OSHA PEL 1989 (1989-03-01) |
|-----------------------------|---|
| | PEL: Permissible Exposure Level 10 mg/m3 Form: Total dust |
| | OSHA PEL (1993-06-30) |
| | PEL: Permissible Exposure Level 15 mg/m3 Form: Total dust |
| | NIOSH REL (1994-06-01) |
| | ACGIH TLV (1996-05-18) |
| | TLV-TWA: Threshold Limit Value - Time weighted average PEL: |
| | Permissible Exposure Level 10 mg/m3 |
| | |
| Annronriate engineering con | trols • Good general ventilation should be sufficient to control worker |

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

Wash hands, forearms and face thoroughly after handling chemical **Hygiene measures**

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.

Skin protection

Chemical-resistant, impervious gloves complying with an approved **Hand protection**

standard should be worn at all times when handling chemical products

if a risk assessment indicates this is necessary.

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. Appropriate footwear and any additional skin protection measures Other skin protection

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



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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.

Section 9. Physical and chemical properties

Appearance

Physical state solid [Pellets.]

GREY Color Odor Faint odor. **Odor threshold** Not available. рH Not available. **Melting point** Not available. **Boiling point** Not available. Flash point Not available. **Burning time** Not available. **Burning rate** Not available. **Evaporation rate** Not available. Flammability (solid, gas) Not available.

Lower and upper explosive Lower: Not available. (flammable) limits **Upper:** Not available.

Vapor pressure Not available. Vapor density Not available. **Relative density** Not available. Not available. **Solubility** Solubility in water insoluble in water.

Partition coefficient: n-

octanol/water

Not available.

Not available. **Auto-ignition temperature Decomposition temperature** Not available. **SADT** Not available.

Viscosity Dynamic: Not available.

Kinematic: Not available.

Section 10. Stability and reactivity

Reactivity No specific test data related to reactivity available for this product or

its ingredients.

Stable under recommended storage and handling conditions (see **Chemical stability**

Section 7).

Possibility of hazardous reactions Under normal conditions of storage and use, hazardous reactions will



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not occur.

Conditions to avoid : Keep away from extreme heat and oxidizing agents.

Incompatible materials : Keep away from strong acids.

Oxidizer.

Hazardous decomposition

products

Under normal conditions of storage and use, hazardous decomposition

products should not be produced.

Section 11. Toxicological information

This mixture has not been evaluated as a whole for health effects. Exposure effects listed are based on existing health data for the individual components which comprise the mixture.

Information on toxicological effects

Acute toxicity

| Product/ingredient name | Result | Species | Dose | Exposure |
|-------------------------|-----------------|------------|---------------|----------|
| Titanium dioxide | | | | |
| | LC50 Inhalation | Rat - Male | 6.82 Mg/l | 4 h |
| | LD50 Dermal | Rabbit | > 5,000 mg/kg | - |
| Carbon black | | | | |
| | LD50 Oral | Rat | 15,400 mg/kg | - |

Conclusion/Summary : Mixture. Not fully tested.

Irritation/Corrosion

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|-------------------------|-------------|---------|-------|----------|-------------|
| Titanium dioxide | Skin - Mild | Human | | 72 hrs | - |
| | irritant | | | | |

Conclusion/Summary

Skin: Mixture.Not fully tested.Eyes: Mixture.Not fully tested.Respiratory: Mixture.Not fully tested.

Sensitization

Conclusion/Summary

Skin: Mixture.Not fully tested.Respiratory: Mixture.Not fully tested.

Mutagenicity

Conclusion/Summary : Mixture. Not fully tested.



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Carcinogenicity

Conclusion/Summary : Mixture.Not fully tested.

Classification

| Product/ingredient | OSHA | IARC | NTP |
|--------------------|------|------|-----|
| name | | | |
| Titanium dioxide | | 2B | |
| Carbon black | | 2B | |

Reproductive toxicity

Conclusion/Summary : Mixture. Not fully tested.

Teratogenicity

Conclusion/Summary : Mixture.Not fully tested.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of : Not available.

exposure

Potential acute health effects

Eye contact: No known significant effects or critical hazards.Inhalation: No known significant effects or critical hazards.Skin contact: No known significant effects or critical hazards.Ingestion: No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact: No specific data.Inhalation: No specific data.Skin contact: No specific data.Ingestion: No specific data.

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



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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

Conclusion/Summary : Mixture. Not fully tested.

General:No known significant effects or critical hazards.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.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

Toxicity

| Product/ingredient name | Result | Species | Exposure |
|-------------------------|---------------------------------|------------------------|----------|
| Titanium dioxide | | | |
| | Acute LC50 > 1,000,000 μg/l | Fish - Fish | 96 h |
| | Marine water | | |
| | Acute LC50 > 1,000 mg/l Fresh | Fish - Fish | 96 h |
| | water | | |
| | Acute LC50 13 mg/l Fresh water | Aquatic invertebrates. | 48 h |
| | | Daphnia | |
| | Acute LC50 6.5 mg/l Fresh water | Aquatic invertebrates. | 48 h |
| | | Daphnia | |
| | Acute LC50 3 mg/l Fresh water | Aquatic invertebrates. | 48 h |
| | | Crustaceans | |



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| | Acute LC50 15.9 mg/l Fresh water | Aquatic invertebrates. | 48 h |
|---|---------------------------------------|------------------------------------|-------------------|
| | Acute LC50 3.6 mg/l Fresh water | Crustaceans Aquatic invertebrates. | 48 h |
| | Acute LC30 3.0 mg/l Fresh water | Crustaceans | 46 11 |
| | Acute LC50 11 mg/l Fresh water | Aquatic invertebrates. Crustaceans | 48 h |
| | Acute LC50 13.4 mg/l Fresh water | Aquatic invertebrates. Crustaceans | 48 h |
| | Acute EC50 27.8 mg/l Fresh water | Aquatic invertebrates. Daphnia | 48 h |
| | Acute EC50 19.3 mg/l Fresh water | Aquatic invertebrates. Daphnia | 48 h |
| | Acute EC50 35.306 mg/l Fresh water | Aquatic invertebrates. Daphnia | 48 h |
| Carbon black | | 1 | |
| | Acute EC50 37.563 mg/l Fresh water | Aquatic invertebrates. Daphnia | 48 h |
| | Acute LC50 61.547 mg/l Fresh water | Aquatic invertebrates. Daphnia | 48 h |
| NEMESIS SILVER SC | | <u> </u> | • |
| Remarks - Acute - Aquatic invertebrates.: | Chemicals are not readily available a | s they are bound within the | e polymer matrix. |

Conclusion/Summary

Chemicals are not readily available as they are bound within the

polymer matrix.

Persistence and degradability

Conclusion/Summary : Chemicals are not readily available as they are bound within the

polymer matrix.

Conclusion/Summary : Chemicals are not readily available as they are bound within the

polymer matrix.

Bioaccumulative potential

| Dioaceaniana ie potentai | | | | |
|--------------------------|--------|--------|-----------|--|
| Product/ingredient name | LogPow | BCF | Potential | |
| Titanium dioxide | | 352.00 | low | |

Mobility in soil

Soil/water partition coefficient : Not available.

(KOC)

Other adverse effects : No known significant effects or critical hazards.



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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.

United States - RCRA Acute hazardous waste "P" List: Not listed

United States - RCRA Toxic hazardous waste "U" List: Not listed

Section 14. Transport information

U.S. DOT Classification : Not regulated for transportation.

ICAO/IATA : Not classified as dangerous good under transport regulations.

IMO/IMDG (maritime) : Not classified as dangerous good under transport regulations.

Section 15. Regulatory information

U.S. Federal regulations : United States - TSCA 12(b) - Chemical export notification: None

of the components are listed.

United States - TSCA 4(a) - Final Test Rules: Not listed
United States - TSCA 4(a) - ITC Priority list: Not listed
United States - TSCA 4(a) - Proposed test rules: Not listed
United States - TSCA 4(f) - Priority risk review: Not listed
United States - TSCA 5(a)2 - Final significant new use rules: Not

listed

United States - TSCA 5(a)2 - Proposed significant new use rules:

Not listed

United States - TSCA 5(e) - Substances consent order: Not listed United States - TSCA 6 - Final risk management: Not listed United States - TSCA 6 - Proposed risk management: Not listed United States - TSCA 8(a) - Chemical risk rules: Not listed



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United States - TSCA 8(a) - Dioxin/Furane precusor: Not listed United States - TSCA 8(a) - Chemical Data Reporting (CDR): Not determined

United States - TSCA 8(a) - Preliminary assessment report

(PAIR): Not listed

United States - TSCA 8(c) - Significant adverse reaction (SAR):

Not listed

United States - TSCA 8(d) - Health and safety studies: Not listed United States - EPA Clean water act (CWA) section 307 - Priority pollutants: Not listed

United States - EPA Clean water act (CWA) section 311 -

Hazardous substances: Not listed

United States - EPA Clean air act (CAA) section 112 - Accidental

release prevention - Flammable substances: Not listed

United States - EPA Clean air act (CAA) section 112 - Accidental

release prevention - Toxic substances: Not listed

United States - Department of commerce - Precursor chemical:

Not listed

Clean Air Act Section 112(b)

Hazardous Air Pollutants (HAPs)

Clean Air Act Section 602 Class I

Substances

Clean Air Act Section 602 Class II

Substances

DEA List I Chemicals (Precursor

Chemicals)

Chemicals)

Not listed

Not listed

Not listed

Not listed

DEA List II Chemicals (Essential Not listed

US. EPA CERCLA Hazardous Substances (40 CFR 302)

not applicable

SARA 311/312

Classification Not applicable.

Composition/information on ingredients

| Name | % | Classification |
|--------------|-------|----------------|
| Carbon black | 1 - 3 | СН |

SARA 313

| Product name | CAS number | % |
|--------------|------------|---|



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| Form R - Reporting requirements | Rutile, antimony chromium buff | 68186-90-3 | 1 - 3 |
|---------------------------------|--------------------------------|------------|--------|
| | Aluminum | 7429-90-5 | 5 - 10 |
| Supplier notification | Rutile, antimony chromium buff | 68186-90-3 | 1 - 3 |
| | Aluminum | 7429-90-5 | 5 - 10 |

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

Massachusetts : The following components are listed:

Titanium dioxide Aluminum

Carbon black

New York : None of the components are listed.
New Jersey : The following components are listed:

Titanium dioxide Aluminum Carbon black

Pennsylvania: The following components are listed:

Carbon black

Aluminum

Titanium dioxide

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

United States inventory (TSCA 8b) : All components are listed or exempted.

Canada inventory : Not determined.

International regulations

International lists : Australia inventory (AICS): Not determined.

Taiwan inventory (CSNN): Not determined.

Malaysia Inventory (EHS Register): Not determined. EINECS: All components are listed or exempted.

Japan inventory: Not determined.

China inventory (IECSC): Not determined.

Korea inventory: Not determined.



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New Zealand Inventory of Chemicals (NZIoC): Not determined. Philippines inventory (PICCS): Not determined.

Chemical Weapons Convention List Schedule I Chemicals

Chemical Weapons Convention
List Schedule II Chemicals

Chemical Weapons Convention
List Schedule III Chemicals

-

Not listed

Not listed

Not listed

Section 16. Other information

History

Date of printing: 06/07/2016Date of issue/Date of revision: 05/25/2016Date of previous issue: 00/00/0000

Version : 1.0

Key to abbreviations : 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 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine

pollution)

UN = United Nations

References : Not available.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist. Particularly this information may not be valid for such material used in conjunction with any other materials or in any process, unless specified in the text.