SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Sodium Metabisulfite Tech
Product Use Description : photographic chemical, Water treatment chemical

Manufacturer or supplier's details
Company : Nexeo Solutions LLC
Address : 3 Waterway Square Place Suite 1000
Woodlands, Tx. 77380
United States of America

Emergency telephone number:
Health North America: 1-855-NEXEO4U (1-855-639-3648)
Health International: 1-855-NEXEO4U (1-855-639-3648)
Transport North America: CHEMTREC 800.424.9300

Additional Information:
Responsible Party: Product Safety Group
E-Mail: msds@nexeosolutions.com
SDS Requests: 1-855-429-2661
SDS Requests Fax: 1-281-500-2370
Website: www.nexeosolutions.com

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification
Acute toxicity (Oral) : Category 4
Serious eye damage : Category 1

GHS Label element
Hazard pictograms

Signal word : Danger
Hazard statements : H302 Harmful if swallowed.
H318 Causes serious eye damage.
May form combustible dust concentrations in air

Precautionary statements : Prevention:
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P280 Wear eye protection/ face protection.
Response:
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.

Disposal:
P501 Dispose of contents/container to an approved waste disposal plant.

Potential Health Effects

Carcinogenicity:

IARC
No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH
No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

OSHA
No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

NTP
No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Emergency Overview

<table>
<thead>
<tr>
<th>Appearance</th>
<th>granular, powder</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour</td>
<td>white</td>
</tr>
<tr>
<td>Odour</td>
<td>pungent</td>
</tr>
</tbody>
</table>

Hazard Summary
No information available.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture: Substance

Hazardous components

<table>
<thead>
<tr>
<th>CAS-No.</th>
<th>Chemical Name</th>
<th>Concentration (%)</th>
</tr>
</thead>
</table>

MSDS Number: 1000000181
SECTION 4. FIRST AID MEASURES

General advice: Move out of dangerous area. 
Consult a physician. 
Show this safety data sheet to the doctor in attendance. 
Do not leave the victim unattended.

If inhaled: If unconscious place in recovery position and seek medical advice. 
If symptoms persist, call a physician.

In case of skin contact: If skin irritation persists, call a physician. 
If on skin, rinse well with water. 
If on clothes, remove clothes.

In case of eye contact: Small amounts splashed into eyes can cause irreversible tissue damage and blindness. 
In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice. 
Continue rinsing eyes during transport to hospital. 
Remove contact lenses. 
Protect unharmed eye. 
Keep eye wide open while rinsing. 
If eye irritation persists, consult a specialist.

If swallowed: Keep respiratory tract clear. 
Do NOT induce vomiting. 
Do not give milk or alcoholic beverages. 
Never give anything by mouth to an unconscious person. 
If symptoms persist, call a physician. 
Take victim immediately to hospital.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media: Use an extinguishing media appropriate for surrounding fire.

Unsuitable extinguishing media: High volume water jet
Specific hazards during firefighting: Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products: sulfur oxides

Specific extinguishing methods: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Further information: Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Special protective equipment for firefighters: Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Use personal protective equipment. Avoid dust formation. Avoid breathing dust.

Environmental precautions: Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.

Methods and materials for containment and cleaning up: Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling: Avoid formation of respirable particles. Do not breathe vapours/dust. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Dispose of rinse water in accordance with local and national regulations.

Conditions for safe storage: Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully re-
sealed and kept upright to prevent leakage. Electrical installations / working materials must comply with the technological safety standards.

Materials to avoid : Do not store near acids.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

<table>
<thead>
<tr>
<th>CAS-No.</th>
<th>Components</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters / Permissible concentration</th>
<th>Basis</th>
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</thead>
<tbody>
<tr>
<td>7681-57-4</td>
<td>Sodium Metabisulfite</td>
<td>STEL</td>
<td>5 mg/m3</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>5 mg/m3</td>
<td>NIOSH REL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>5 mg/m3</td>
<td>OSHA P0</td>
</tr>
</tbody>
</table>

Personal protective equipment

Respiratory protection : No personal respiratory protective equipment normally required.
In the case of vapour formation use a respirator with an approved filter.

Hand protection
Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Eye wash bottle with pure water
Tightly fitting safety goggles
Wear face-shield and protective suit for abnormal processing problems.

Skin and body protection : Dust impervious protective suit
Choose body protection according to the amount and concentration of the dangerous substance at the workplace.

Hygiene measures : When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : granular, powder
Colour: white

Odour: pungent

Odour Threshold: No data available

pH: 4.3 @ 1 %

Freezing Point: No data available

Boiling Point (Boiling point/boiling range): Decomposition

Flash point: not applicable

Evaporation rate: No data available

Flammability (solid, gas): No data available

Burning rate: No data available

Upper explosion limit: No data available

Lower explosion limit: No data available

Vapour pressure: not applicable

Relative vapour density: not applicable

Relative density: 1.48Reference substance: (water = 1)

Density: No data available

Bulk density: No data available

Solubility(ies)
  Water solubility: partly soluble @ 16 °C (61 °F)

   Solubility in other solvents: No data available

Partition coefficient: n-octanol/water: No data available

Auto-ignition temperature: No data available

Thermal decomposition: 150 °C
SECTION 10. STABILITY AND REACTIVITY

Reactivity: No dangerous reaction known under conditions of normal use.

Chemical stability: Stable under normal conditions.

Possibility of hazardous reactions: Keep strong oxidizers away from sodium bisulfite mixtures. Oxidizers may cause strong exothermic reactions. Acids yield sulfur dioxide gas, which is toxic and corrosive. Dust may form explosive mixture in air.

Conditions to avoid: elevated temperatures

Incompatible materials: Acids, Oxidizing agents, water

Hazardous decomposition products: Sulphur oxides

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Components:
7681-57-4:

Acute oral toxicity: LD50 (rat): 1,540 mg/kg
Assessment: The component/mixture is moderately toxic after single ingestion.

Acute inhalation toxicity: Remarks: No data available

Acute dermal toxicity: LD50 (rat, male and female): > 2,000 mg/kg
Method: OECD Test Guideline 402
Test substance: Information given is based on data obtained from similar substances.
GLP: yes

Skin corrosion/irritation

Components:
7681-57-4:
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Species: rabbit
Exposure time: 4 h
Method: OECD Test Guideline 404
Result: Mild skin irritation
Test substance: Information given is based on data obtained from similar substances.

Serious eye damage/eye irritation

Product:
Remarks: Risk of serious damage to eyes.

Components:
7681-57-4:
Species: rabbit
Result: Risk of serious damage to eyes.
Method: OECD Test Guideline 405

Respiratory or skin sensitisation

Components:
7681-57-4:
Test Type: lymph node assay
Species: mouse
Method: OECD Test Guideline 429
Result: Did not cause sensitisation on laboratory animals.
GLP: yes

Germ cell mutagenicity

Components:
7681-57-4:
Genotoxicity in vitro: Test Type: Mammalian cell gene mutation assay
Test species: mouse lymphoma cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative
GLP: yes

Genotoxicity in vivo: Test Type: In vivo micronucleus test
Test species: mouse (male)
Application Route: Subcutaneous
Dose: 250, 500, 1000 mg/kg
Method: OECD Test Guideline 474
Result: negative
GLP: yes
Test substance: Information given is based on data
obtained from similar substances.

Germ cell mutagenicity - Assessment: Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

Carcinogenicity

Components:

7681-57-4:
Species: rat, (male and female)
Application Route: Oral
Exposure time: 104 wk
Dose: 50, 110, 220, 460, 960 mg/kg bw
NOAEL: > 955 mg/kg

Result: did not display carcinogenic properties

Carcinogenicity - Assessment: No evidence of carcinogenicity in animal studies.

Reproductive toxicity

Components:

7681-57-4:
Effects on fertility:
Species: rat, male and female
Application Route: oral
Dose: 50, 110, 220, 460, 960 mg/kg
Fertility: NOAEL: > 955 mg/kg
Result: Animal testing did not show any effects on fertility.

Effects on foetal development:
Species: rabbit
Application Route: oral
Dose: 1.23, 5.71, 26.5, 123 mg/kg bw
Duration of Single Treatment: 13 d
General Toxicity Maternal: NOAEL: > 123 mg/kg bw
Teratogenicity: NOAEL: > 123 mg/kg bw
Developmental Toxicity: NOAEL: 123 mg/kg bw
Method: OECD Test Guideline 414
Result: No teratogenic effects.
GLP: no

Reproductive toxicity - Assessment: No evidence of adverse effects on sexual function and fertility, and on development, based on animal experiments.

STOT - single exposure
Product: No data available
Components:
7681-57-4: No data available

STOT - repeated exposure
Product: No data available

Components:
7681-57-4: No data available

Repeated dose toxicity
Components:
7681-57-4:
Species: rat, male and female
NOAEL: 108 mg/kg
Application Route: Oral
Exposure time: 104 wk
Number of exposures: daily
Dose: 50, 110, 220, 460, 960 mg/kgbw
Symptoms: Local irritation

Aspiration toxicity
Product:
No aspiration toxicity classification

Further information
Product:
Remarks: No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity
Components:
7681-57-4:
Toxicity to fish: LC50 (Oncorhynchus mykiss (rainbow trout)): 177.8 mg/l
Exposure time: 96 h
Test Type: static test
Method: DIN 38412
GLP: no

Toxicity to daphnia and:
EC50 (Daphnia magna (Water flea)): 62.5 mg/l
other aquatic invertebrates

Exposure time: 48 h
Test Type: static test
GLP: no

Toxicity to algae

EC50 (Desmodesmus subspicatus): 43.8 mg/l
End point: Growth rate
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201
GLP: no

Ecotoxicology Assessment
Acute aquatic toxicity

Harmful to aquatic life.

Chronic aquatic toxicity

Harmful to aquatic life with long lasting effects.

Persistence and degradability

Components:
7681-57-4:
Biodegradability: Remarks: No data available

Bioaccumulative potential
No data available

Mobility in soil
No data available

Other adverse effects
No data available

Product:
Regulation
40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances

Remarks
This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information
An environmental hazard cannot be excluded in the event of unprofessional handling or disposal., Harmful to aquatic life with long lasting effects.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods
Waste from residues: Dispose of in accordance with all applicable local,
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state and federal regulations.
For assistance with your waste management needs -
including disposal, recycling and waste stream reduc-
tion, contact NEXEO’s Environmental Services Group
at 800-637-7922.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

IATA (International Air Transport Association): Not regulated as a dangerous good

IMDG-Code: Not regulated as a dangerous good

DOT (Department of Transportation): Not regulated as a dangerous good

SECTION 15. REGULATORY INFORMATION

OSHA Hazards : Combustible dust, Severe eye irritant, Harmful by ingestion

WHMIS Classification : D2B: Toxic Material Causing Other Toxic Effects

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity
This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Acute Health Hazard

SARA 302 : SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
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SARA 313
SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act
This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMII Intermediate or Final VOC’s (40 CFR 60.489).

Clean Water Act
This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.
This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.
This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

US State Regulations

Massachusetts Right To Know
7681-57-4 Sodium Metabisulfite 90 - 100 %

Pennsylvania Right To Know
7681-57-4 Sodium Metabisulfite 90 - 100 %

New Jersey Right To Know
7681-57-4 Sodium Metabisulfite 90 - 100 %

California Prop 65
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

The components of this product are reported in the following inventories:

<table>
<thead>
<tr>
<th>Inventory</th>
<th>Status</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States TSCA Inventory</td>
<td>y (positive listing)</td>
<td>(On TSCA Inventory)</td>
</tr>
<tr>
<td>Canadian Domestic Substances List (DSL)</td>
<td>y (positive listing)</td>
<td>(All components of this product are on the Canadian DSL.)</td>
</tr>
<tr>
<td>Australia Inventory of Chemical Substances (AICS)</td>
<td>y (positive listing)</td>
<td>(On the inventory, or in compliance with the inventory)</td>
</tr>
<tr>
<td>Country/Inventory</td>
<td>Status</td>
<td></td>
</tr>
<tr>
<td>-------------------------------------------------------</td>
<td>-------------------------</td>
<td></td>
</tr>
<tr>
<td>New Zealand. Inventory of Chemical Substances</td>
<td>y (positive listing) (On the inventory, or in compliance with the inventory)</td>
<td></td>
</tr>
<tr>
<td>Japan. ENCS - Existing and New Chemical Substances Inventory</td>
<td>y (positive listing) (On the inventory, or in compliance with the inventory)</td>
<td></td>
</tr>
<tr>
<td>Japan. ISHL - Inventory of Chemical Substances (METI)</td>
<td>y (positive listing) (On the inventory, or in compliance with the inventory)</td>
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</tr>
<tr>
<td>Korea. Korean Existing Chemicals Inventory (KECI)</td>
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<tr>
<td>Philippines Inventory of Chemicals and Chemical Substances (PICCS)</td>
<td>y (positive listing) (On the inventory, or in compliance with the inventory)</td>
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<tr>
<td>China. Inventory of Existing Chemical Substances in China (IECSC)</td>
<td>y (positive listing) (On the inventory, or in compliance with the inventory)</td>
<td></td>
</tr>
</tbody>
</table>
 SECTION 16. OTHER INFORMATION

Further information

NFPA:

<table>
<thead>
<tr>
<th>Flammability</th>
<th>Health</th>
<th>Instability</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

Special hazard.

HMIS III:

<table>
<thead>
<tr>
<th>HEALTH</th>
<th>FLAMMABILITY</th>
<th>PHYSICAL HAZARD</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

0 = not significant, 1 = Slight, 2 = Moderate, 3 = High, 4 = Extreme, * = Chronic

The information accumulated is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made become available subsequently to the date hereof, we do not assume any responsibility for the results of its use. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This MSDS has been prepared by NEXEO™ Solutions EHS Product Safety Department (1-855-429-2661) MSDS@nexeosolutions.com.

Legacy MSDS: R0004122

Material number:
89337, 104790, 104036, 88184, 167571

| Key or legend to abbreviations and acronyms used in the safety data sheet |
|-----------------------------------------------|-----------------------------------------------|
| ACGIH                                      | American Conference of Government Industrial Hygienists |
| AICS                                       | Australia, Inventory of Chemical Substances |
| DSL                                        | Canada, Domestic Substances List |
| NDSL                                       | Canada, Non-Domestic Substances List |
| CNS                                        | Central Nervous System |
| CAS                                        | Chemical Abstract Service |
| EC50                                       | Effective Concentration |
| EC50                                       | Effective Concentration 50% |
| EGEST                                      | EOSCA Generic Exposure Scenario Tool |
| EOSCA                                      | European Oilfield Specialty Chemicals Association |
| LD50                                       | Lethal Dose 50% |
| LOAEL                                      | Lowest Observed Adverse Effect Level |
| NFPA                                       | National Fire Protection Agency |
| NIOSH                                      | National Institute for Occupational Safety & Health |
| NTP                                        | National Toxicology Program |
| NZIoC                                      | New Zealand Inventory of Chemicals |
| NOAEL                                      | No Observable Adverse Effect Level |
| NOEC                                       | No Observed Effect Concentration |
| OSHA                                       | Occupational Safety & Health Administration |
| PEL                                         | Permissible Exposure Limit |

MSDS Number: 100000018181
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Name</th>
<th>Abbreviation</th>
<th>Full Name</th>
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<tbody>
<tr>
<td>EINECS</td>
<td>European Inventory of Existing Chemical Substances</td>
<td>PICCS</td>
<td>Philippines Inventory of Commercial Chemical Substances</td>
</tr>
<tr>
<td>MAK</td>
<td>Germany Maximum Concentration Values</td>
<td>PRNT</td>
<td>Presumed Not Toxic</td>
</tr>
<tr>
<td>GHS</td>
<td>Globally Harmonized System</td>
<td>RCRA</td>
<td>Resource Conservation Recovery Act</td>
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<tr>
<td>&gt;=</td>
<td>Greater Than or Equal To</td>
<td>STEL</td>
<td>Short-term Exposure Limit</td>
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<tr>
<td>IC50</td>
<td>Inhibition Concentration 50%</td>
<td>SARA</td>
<td>Supergum Amendments and Reau-thorization Act.</td>
</tr>
<tr>
<td>IARC</td>
<td>International Agency for Research on Cancer</td>
<td>TLV</td>
<td>Threshold Limit Value</td>
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<td>TWA</td>
<td>Time Weighted Average</td>
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<td>ENCS</td>
<td>Japan, Inventory of Existing and New Chemical Substances</td>
<td>TSCA</td>
<td>Toxic Substance Control Act</td>
</tr>
<tr>
<td>KECI</td>
<td>Korea, Existing Chemical Inventory</td>
<td>UVCB</td>
<td>Unknown or Variable Compositon, Complex Reaction Products, and Biological Materials</td>
</tr>
<tr>
<td>&lt;=</td>
<td>Less Than or Equal To</td>
<td>WHMIS</td>
<td>Workplace Hazardous Materials Information System</td>
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<tr>
<td>LC50</td>
<td>Lethal Concentration 50%</td>
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</table>