

Revision: 08/21/2018 Supersedes Revision: 02/19/2015

|     |   | according   | to Regulation (EC) No. 1907/2006 as a   | amended by (EC) No. 2015/8  | 30 and US OSHA HCS  | 2015   |  |  |
|-----|---|---|---|---|---|--|--|--|
|     |   | <u> </u>  | lentification of the Substar  |   |   |  |  |  |
| 1.1 | Product Code  |   |   |   |   | lacitating                                       |  |  |
|     | Product Name  |   | 16269<br>ONX 0912   |   |   |  |  |  |
|     | Synonyms:   | <b>c.</b>   |   | -thiazolyl)carbonyl]-l  | -servl-O-methyl-N   | I-[(1S)-2-[(2R)-2-methyl-2-oxiran                |  |  |
|     | •   |   | ]-2-oxo-1-(phenylmethyl)  |   |   |  |  |  |
| .2  | Relevant identified uses of the substance or mixture and uses advised against:                                    |   |   |   |   |  |  |  |
|     |   | entified uses:  | For research use only, no   |   | -   |  |  |  |
| .3  | Details of the Supplier of the Safety Data Sheet:   |   |   |   |   |  |  |  |
|     | Company Name: Cayman Chemical Com   |   |   | bany  |   |  |  |  |
|     | . ,   |   | 1180 E. Ellsworth Rd.   | ,   |   |  |  |  |
|     |   |   | Ann Arbor, MI 48108   |   |   |  |  |  |
|     | Web site ad   | dress:  | www.caymanchem.com  |   |   |  |  |  |
|     | Information   | :   | Cayman Chemical Comp  | bany  | +1 (734   | 4)971-3335                                       |  |  |
| 1.4 |   | elephone num  |   |   |   |  |  |  |
|     | Emergency   | Contact:  | CHEMTREC Within USA   |   |   | 0)424-9300                                       |  |  |
|     |   |   | CHEMTREC Outside US   | A and Canada:   | +1 (703   | 3)527-3887                                       |  |  |
|     |   |   | Section 2. Haz  | zards Identific   | cation  |  |  |  |
| 2.1 | Classification  | of the Substa   | ince or Mixture:  |   |   |  |  |  |
| 2.2 | Label Elemen  | its:  |   |   |   |  |  |  |
|     | GHS Signal  | Word:   | None  |   |   |  |  |  |
|     | GHS Hazaro  | d Phrases:  |   |   |   |  |  |  |
|     | Based on evaluation of currently available data this substance or mixture is not classifiable according to GHS.   |   |   |   |   |  |  |  |
|     | GHS Precaution Phrases:   |   |   |   |   |  |  |  |
|     |   |   | -   |   | not classifiable ac   | cording to GHS.                                  |  |  |
|     |   | ution Phrases:  | -   |   | not classifiable ac   | cording to GHS.                                  |  |  |
|     | GHS Precat<br>No phrases  | ution Phrases:  | -   |   | not classifiable ac   | cording to GHS.                                  |  |  |
|     | GHS Precat<br>No phrases  | ution Phrases:<br>apply.<br>onse Phrases:   | -   |   |   | cording to GHS.                                  |  |  |
|     | GHS Precat<br>No phrases<br>GHS Respo<br>No phrases   | ution Phrases:<br>apply.<br>onse Phrases:   |   |   | not classifiable ac   | cording to GHS.                                  |  |  |
|     | GHS Preca<br>No phrases<br>GHS Respo<br>No phrases<br>GHS Storag  | ution Phrases:<br>apply.<br>onse Phrases:<br>apply.<br>ge and Disposa   |   |   |   | cording to GHS.                                  |  |  |
| 2.3 | GHS Precat<br>No phrases<br>GHS Respo<br>No phrases<br>GHS Storag<br>Please refer<br>Adverse Hum                  | ution Phrases:<br>apply.<br>onse Phrases:<br>apply.<br>ge and Dispose<br>to Section 7 fo<br>nan Health              | <b>al Phrases:</b><br>r Storage and Section 13 for<br>Material may be irritating to t   | · Disposal informatior<br>he mucous membrar   | n.<br>nes and upper res   |  |  |  |
| 2.3 | GHS Precat<br>No phrases<br>GHS Respo<br>No phrases<br>GHS Storag<br>Please refer                                 | ution Phrases:<br>apply.<br>onse Phrases:<br>apply.<br>ge and Dispose<br>to Section 7 fo<br>nan Health              | <b>al Phrases:</b><br>r Storage and Section 13 for<br>Material may be irritating to t<br>May be harmful by inhalation   | <sup>-</sup> Disposal informatior<br>he mucous membrar<br>n, ingestion, or skin al  | n.<br>nes and upper res<br>bsorption.                             |  |  |  |
| 2.3 | GHS Precat<br>No phrases<br>GHS Respo<br>No phrases<br>GHS Storag<br>Please refer<br>Adverse Hum                  | ution Phrases:<br>apply.<br>onse Phrases:<br>apply.<br>ge and Dispose<br>to Section 7 fo<br>nan Health<br>Symptoms: | <b>al Phrases:</b><br>Ir Storage and Section 13 for<br>Material may be irritating to t<br>May be harmful by inhalation<br>May cause eye, skin, or resp  | Disposal informatior<br>he mucous membrar<br>a, ingestion, or skin al<br>airatory system irritati                           | n.<br>nes and upper res<br>bsorption.<br>on.                      | piratory tract.                                  |  |  |
| 2.3 | GHS Precat<br>No phrases<br>GHS Respo<br>No phrases<br>GHS Storag<br>Please refer<br>Adverse Hum                  | ution Phrases:<br>apply.<br>apply.<br>ge and Disposa<br>to Section 7 fo<br>nan Health<br>Symptoms:                  | al Phrases:<br>or Storage and Section 13 for<br>Material may be irritating to t<br>May be harmful by inhalation<br>May cause eye, skin, or resp<br>To the best of our knowledge   | Disposal informatior<br>he mucous membrar<br>n, ingestion, or skin al<br>iratory system irritati<br>e, the toxicological pr | n.<br>hes and upper res<br>bsorption.<br>on.<br>operties have not | piratory tract.<br>been thoroughly investigated. |  |  |
| 2.3 | GHS Precat<br>No phrases<br>GHS Respo<br>No phrases<br>GHS Storag<br>Please refer<br>Adverse Hum                  | ution Phrases:<br>apply.<br>apply.<br>ge and Disposa<br>to Section 7 fo<br>nan Health<br>Symptoms:                  | <b>al Phrases:</b><br>Ir Storage and Section 13 for<br>Material may be irritating to t<br>May be harmful by inhalation<br>May cause eye, skin, or resp  | Disposal informatior<br>he mucous membrar<br>n, ingestion, or skin al<br>iratory system irritati<br>e, the toxicological pr | n.<br>hes and upper res<br>bsorption.<br>on.<br>operties have not | piratory tract.<br>been thoroughly investigated. |  |  |
| CAS | GHS Precat<br>No phrases<br>GHS Respo<br>No phrases<br>GHS Storag<br>Please refer<br>Adverse Hum<br>Effects and S | ution Phrases:<br>apply.<br>apply.<br>ge and Dispose<br>to Section 7 fo<br>nan Health<br>Symptoms:                  | al Phrases:<br>r Storage and Section 13 for<br>Material may be irritating to t<br>May be harmful by inhalation<br>May cause eye, skin, or resp<br>To the best of our knowledge<br>On 3. Composition<br>nents (Chemical Name)/ | Disposal informatior<br>he mucous membrar<br>n, ingestion, or skin al<br>iratory system irritati<br>e, the toxicological pr | n.<br>hes and upper res<br>bsorption.<br>on.<br>operties have not | piratory tract.<br>been thoroughly investigated. |  |  |



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|     |  | Section 4. First Aid Measures  |  |  |  |  |
|-----|--|--|--|--|--|--|
| I.1 | Description of First Aid   |  |  |  |  |  |
|     | Measures:  |  |  |  |  |  |
|     | In Case of Inhalation:   | Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel Get immediate medical attention.  |  |  |  |  |
|     | In Case of Skin Contact:   | Immediately wash skin with soap and plenty of water for at least 15 minutes. Remove contaminate clothing. Get medical attention if symptoms occur. Wash clothing before reuse.   |  |  |  |  |
|     | In Case of Eye Contact:  | Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Have eyes examined and tested by medical personnel.  |  |  |  |  |
|     | In Case of Ingestion:  | Wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.  |  |  |  |  |
|     |  | Section 5. Fire Fighting Measures  |  |  |  |  |
| 5.1 | Suitable Extinguishing   | Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray.  |  |  |  |  |
|     | Media:   | Use water spray to cool fire-exposed containers.   |  |  |  |  |
|     | Unsuitable Extinguishing<br>Media:   | A solid water stream may be inefficient.   |  |  |  |  |
| 5.2 | Flammable Properties andNo data available.<br>Hazards:                       |  |  |  |  |  |
|     |  | No data available.   |  |  |  |  |
|     | Flash Pt:  | No data.   |  |  |  |  |
|     | Explosive Limits:  | LEL: No data. UEL: No data.  |  |  |  |  |
|     | Autoignition Pt:   | No data.   |  |  |  |  |
| 5.3 | Fire Fighting Instructions   | : As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.  |  |  |  |  |
|     |  | Section 6. Accidental Release Measures   |  |  |  |  |
| 6.1 | Protective Precautions,<br>Protective Equipment and<br>Emergency Procedures: | Avoid raising and breathing dust, and provide adequate ventilation.<br>d As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator,<br>and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves). |  |  |  |  |
| 6.2 | Environmental<br>Precautions:  | Take steps to avoid release into the environment, if safe to do so.  |  |  |  |  |
| 6.3 |  | r Contain spill and collect, as appropriate.<br>${f g}$ Transfer to a chemical waste container for disposal in accordance with local regulations.  |  |  |  |  |
|     |  | Section 7. Handling and Storage  |  |  |  |  |
| 7.1 | Precautions To Be Taken  | Avoid breathing dust/fume/gas/mist/vapours/spray.  |  |  |  |  |
|     | in Handling:   | Avoid prolonged or repeated exposure.  |  |  |  |  |
| 7.2 | Precautions To Be Taken  | Keep container tightly closed.   |  |  |  |  |
|     | in Storing:  | Store in accordance with information listed on the product insert.   |  |  |  |  |
|     | Sec  | tion 8. Exposure Controls/Personal Protection  |  |  |  |  |
| 8.1 | Exposure Parameters:   |  |  |  |  |  |

Multi-region format



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| 8.2   | Exposure Controls:             |  |  |  |  |  |  |
|-------|--------------------------------|--|--|--|--|--|--|
| 8.2.1 | Engineering Controls           | Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne     |  |  |  |  |  |
|       | (Ventilation etc.):            | levels below recommended exposure limits.  |  |  |  |  |  |
| 8.2.2 | Personal protection equipment: |  |  |  |  |  |  |
|       | Eye Protection:                | Safety glasses   |  |  |  |  |  |
|       | Protective Gloves:             | Compatible chemical-resistant gloves   |  |  |  |  |  |
|       | Other Protective Clothing:     | Dat  |  |  |  |  |  |
|       | Respiratory Equipment          | NIOSH approved respirator, as conditions warrant.  |  |  |  |  |  |
|       | (Specify Type):                |  |  |  |  |  |  |
|       | Work/Hygienic/Maintenan        | Do not take internally.  |  |  |  |  |  |
|       | ce Practices:                  | Facilities storing or utilizing this material should be equipped with an eyewash and a safety shower.    |  |  |  |  |  |
|       |                                | Wash thoroughly after handling.  |  |  |  |  |  |
|       |                                | No data available.   |  |  |  |  |  |
|       | Se                             | ection 9. Physical and Chemical Properties   |  |  |  |  |  |
| 9.1   | Information on Basic Phys      | ical and Chemical Properties   |  |  |  |  |  |
|       | Physical States:               | []Gas []Liquid [X]Solid  |  |  |  |  |  |
|       | Appearance and Odor:           | A crystalline solid  |  |  |  |  |  |
|       | pH:                            | No data.   |  |  |  |  |  |
|       | Melting Point:                 | No data.   |  |  |  |  |  |
|       | Boiling Point:                 | No data.   |  |  |  |  |  |
|       | Flash Pt:                      | No data.   |  |  |  |  |  |
|       | Evaporation Rate:              | No data.   |  |  |  |  |  |
|       | Flammability (solid, gas):     | No data available.   |  |  |  |  |  |
|       | Explosive Limits:              | LEL: No data. UEL: No data.  |  |  |  |  |  |
|       | Vapor Pressure (vs. Air or     | mm No data.  |  |  |  |  |  |
|       | Hg):                           |  |  |  |  |  |  |
|       | Vapor Density (vs. Air = 1)    | : No data.   |  |  |  |  |  |
|       | Specific Gravity (Water = 2    | 1): No data.   |  |  |  |  |  |
|       | Solubility in Water:           | No data.   |  |  |  |  |  |
|       | Solubility Notes:              | ~0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2); ~1 mg/ml in EtOH; ~5 mg/ml in DMSO; ~10 mg/ml in DMF; |  |  |  |  |  |
|       | <b>Octanol/Water Partition</b> | No data.   |  |  |  |  |  |
|       | Coefficient:                   |  |  |  |  |  |  |
|       | Autoignition Pt:               | No data.   |  |  |  |  |  |
|       | Decomposition Temperatu        | ure: No data.  |  |  |  |  |  |
|       | Viscosity:                     | No data.   |  |  |  |  |  |
| 9.2   | Other Information              |  |  |  |  |  |  |
|       | Percent Volatile:              | No data.   |  |  |  |  |  |
|       | Molecular Formula & Weig       | <b>Jht:</b> C25H32N4O7S 532.6  |  |  |  |  |  |
|       |                                |  |  |  |  |  |  |

Multi-region format



## SAFETY DATA SHEET ONX 0912

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|                | ******                            |                      | Operations 40, 01, 1, 111, 1  |               |               | upersedes Revis | ion: 02/19/201  |  |
|----------------|-----------------------------------|----------------------|---|---------------|---------------|-----------------|-----------------|--|
|                |                                   |                      | Section 10. Stability and   | Keactiv       | /ity          |                 |                 |  |
| 10.1           | Reactivity: No data available.    |                      |   |               |               |                 |                 |  |
| 10.2           | Stability: Unstable [] Stable [X] |                      |   |               |               |                 |                 |  |
| 10.3           | Stability                         | Note(s):             | Stable if stored in accordance with information listed on the product insert. |               |               |                 |                 |  |
|                | Polymeri                          | zation:              | Will occur [ ] Will not occur [ X ]   |               |               |                 |                 |  |
| 10.4           | Conditio                          | ns To Avoid:         | No data available.  |               |               |                 |                 |  |
| 10.5           | Incompa                           | tibility - Materials | strong acids  |               |               |                 |                 |  |
|                | To Avoid:                         |                      | strong bases  |               |               |                 |                 |  |
|                |                                   |                      | strong oxidizing agents   |               |               |                 |                 |  |
|                |                                   |                      | strong reducing agents  |               |               |                 |                 |  |
| 10.6           | Hazardou                          | ls                   | carbon dioxide  |               |               |                 |                 |  |
|                | -                                 | osition or           | carbon monoxide   |               |               |                 |                 |  |
|                | Byprodu                           | cts:                 | nitrogen oxides   |               |               |                 |                 |  |
|                |                                   |                      | sulfur oxides   |               |               |                 |                 |  |
|                |                                   |                      | Section 11. Toxicological   | Informa       | tion          |                 |                 |  |
| 11.1           | Informati                         |                      | The toxicological effects of this product ha                                  | ve not been   | thoroughly st | udied.          |                 |  |
|                | Toxicolo                          | gical Effects:       |   |               |               |                 |                 |  |
| CAS            | #                                 | Hazardous Com        | ponents (Chemical Name)   | NTP           | IARC          | ACGIH           | OSHA            |  |
| 9358           | 88-69-0                           | ONX 0912             |   | n.a.          | n.a.          | n.a.            | n.a.            |  |
|                |                                   |                      | Section 12. Ecological In   | nformati      | on            |                 |                 |  |
| 12.1           | Toxicity:                         |                      | Avoid release into the environment.   |               |               |                 |                 |  |
|                | Toxicity.                         |                      | Runoff from fire control or dilution water may cause pollution.               |               |               |                 |                 |  |
| 12.2           | Persister                         | nce and              | No data available.  | , ,           |               |                 |                 |  |
| Degradability: |                                   |                      |   |               |               |                 |                 |  |
| 12.3           | Bioaccur                          | -                    | No data available.  |               |               |                 |                 |  |
| 12.0           | Potential                         |                      |   |               |               |                 |                 |  |
| 12.4           | Mobility                          |                      | No data available.  |               |               |                 |                 |  |
|                | -                                 |                      | No data available.  |               |               |                 |                 |  |
| 12.5           |                                   |                      | no data avallable.  |               |               |                 |                 |  |
|                | assessm                           |                      |   |               |               |                 |                 |  |
| 12.6           | Other ad                          | verse effects:       | No data available.  |               |               |                 |                 |  |
|                |                                   |                      | Section 13. Disposal Cor  | siderati      | ons           |                 |                 |  |
| 13.1           | Waste Di                          | sposal Method:       | Dispose in accordance with local, state, and                                  | nd federal re | gulations.    |                 |                 |  |
|                |                                   |                      | Section 14. Transport li  | nformati      | on            |                 |                 |  |
| 14.1           | LAND T                            | RANSPORT (US I       | DOT):   |               |               |                 |                 |  |
| D              | OT Proper                         | Shipping Name:       | Not dangerous goods.  |               |               |                 |                 |  |
|                | OT Hazard                         |                      | -   |               |               |                 |                 |  |
| U              | N/NA Num                          | ber:                 |   |               |               |                 |                 |  |
| 14.1           |                                   | RANSPORT (Euro       | opean ADR/RID):   |               |               |                 |                 |  |
| Α              |                                   | ipping Name:         | Not dangerous goods.  |               |               |                 |                 |  |
|                | N Number                          |                      |   |               |               |                 |                 |  |
|                | azard Clas                        |                      |   |               |               |                 |                 |  |
|                |                                   |                      |   |               |               |                 |                 |  |
|                |                                   |                      |   |               |               |                 |                 |  |
|                |                                   |                      |   |               |               | -               |                 |  |
|                |                                   |                      |   |               |               | N               | Iulti-region fo |  |

| 4      |
|--------|
|        |
| Carman |
| Cayman |

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14.3 AIR TRANSPORT (ICAO/IATA):

ICAO/IATA Shipping Name:

: Not dangerous goods. Transport in accordance with local, state, and federal regulations.

Additional Transport Information:

# Section 15. Regulatory Information

| CAS #                                | Hazardous Com | ponents (Chemical Name)  | S. 302 (EHS)  | S. 304 RQ | S. 313 (TRI) |  |
|--------------------------------------|---------------|--|---|-----------|--------------|--|
| 935888-69-0                          | ONX 0912      |  | No  | No        | No           |  |
| CAS # Hazardous Com                  |               | ponents (Chemical Name)  | onents (Chemical Name) Other US EPA or State Lists          |           |              |  |
| 935888-69-0                          | ONX 0912      |  | CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA<br>PROP.65: No |           |              |  |
| Regulatory Information<br>Statement: |               | This SDS was prepared in accordance with 29 CFR 1910.1200 and Regulation (EC) No.1272/2008.  |   |           |              |  |
|                                      |               | Section 16. Oth  | ner Informatio  | n         |              |  |
| Revision Date:                       |               | 08/21/2018   |   |           |              |  |
| Additional Information About         |               | No data available.   |   |           |              |  |
| This Product:                        |               |  |   |           |              |  |
| Company Policy or Disclaimer:        |               | DISCLAIMER: This information is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. |   |           |              |  |