

| ersion 1.1  | Revision Date 27.06.2022 Print Date 06.02.2023  |  |  |
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| SECTION 1. PROD   | UCT AND COMPANY IDENTIFICATION  |  |  |
| Product identifier  | : AFT-B402 Combustion Catalyst CII  |  |  |
| Other means of Identification   | : 74743   |  |  |
| Recommended use   | : Additive for petroleum fuels  |  |  |
| Restrictions on use   | : This material should not be used for any other purpose than that recommended without expert advice. |  |  |
| Manufacturer or supplier's details  | Apex Chemicals (S) Pte Ltd<br>132 Tuas South Avenue 2<br>West Point Bizhub<br>Singapore 637171        |  |  |
| Emergency telephone number  | : (65) 6483 5350 Or Call Fire / SCDF 995  |  |  |
|   |   |  |  |
| SECTION   | 2. HAZARDS IDENTIFICATION   |  |  |
| This material is not considered to be hazardous according to regulations. |   |  |  |
| Not a hazardous substance or mixtu  | ire.  |  |  |
| GHS Label elements, including pr  |   |  |  |
| None.   |   |  |  |
| Other hazards which do not result   | t in classification   |  |  |
| Contact with hot material may cause<br>This mixture contains no substance | e thermal burns<br>considered to be persistent, bioaccumulating and toxic (PBT)<br>1 / 18             |  |  |



Version 1.1

Revision Date 27.06.2022

Print Date 06.02.2023

at =>0.1%.

This mixture contains no substance considered to be very persistent and very bioaccumulating (vPvB) at => 0.1%.

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Substance / Mixture : Mixture

Hazardous components

| Component                                  | CAS-No.      | Concentration [%] | GHS-Classification  |
|--|--------------|-------------------|---|
| Naphtha (petroleum),<br>hydrotreated heavy | 64742-48-9   | >= 10 - < 20      | Asp. Tox. 1; H304   |
| Long chain alkyl<br>phenol                 | Trade secret | >= 5 - < 10       | Skin Sens. 1; H317<br>Acute Tox. 5; H303<br>STOT RE 2; H373     |
| Heavy aromatic<br>solvent                  | 64742-94-5   | >= 1 - < 5        | STOT SE 3; H336<br>Asp. Tox. 1; H304<br>Aquatic Chronic 2; H411 |
| Butanedioic acid, polyisobutenyl derivs.   | 68610-89-9   | >= 1 - < 5        | Eye Dam./Eye Irrit. 2; H319                                     |

For the full text of the H-Statements mentioned in this Section, see Section 16.

All concentrations are weight percent units for liquids or volume percent units for gaseous products.

Other ingredients are either not hazardous or are below the regulatory disclosure limit..

### **SECTION 4. FIRST AID MEASURES**

#### Description of first aid measures

| General advice          | : No hazards which require special first aid measures.  |
|-------------------------|---|
| If inhaled              | <ul> <li>If unconscious, place in recovery position and seek medical<br/>advice.</li> <li>If symptoms persist, call a physician.</li> </ul>   |
| In case of skin contact | <ul> <li>Take off contaminated clothing and shoes immediately.</li> <li>Wash off with soap and plenty of water.</li> <li>If symptoms persist, call a physician.</li> <li>In case of burns apply cold water until pain subsides then seek medical advice.</li> </ul> |
| In case of eye contact  | <ul> <li>Flush eyes with water as a precaution.</li> <li>Remove contact lenses.</li> <li>Protect unharmed eye.</li> <li>Keep eye wide open while rinsing.</li> <li>If eye irritation persists: Get medical advice/ attention.</li> </ul>                            |
|                         | 2 / 18  |
|                         | Z_MSDS_SG   |



| If swallowed  | :              | Clean mouth with water and drink aft<br>Do not give milk or alcoholic beverag<br>Never give anything by mouth to an u<br>If symptoms persist, call a physician.  | es.  |
|---|----------------|--|--|
| Most important symptoms a   | nd             | effects, both acute and delayed  |  |
| Symptoms  | :              | Dermatitis   |  |
| Indication of any immediate   | me             | dical attention and special treatmen   | nt needed  |
| Treatment   | :              | Show this safety data sheet to the do<br>The first aid procedure should be est<br>with the doctor responsible for indust<br>If a person vomits when lying on his la<br>recovery position.<br>Do not induce vomiting: contains petr<br>aromatic solvents.<br>Keep patient warm and at rest. | ablished in consultatior<br>rial medicine.<br>back, place him in the |
| Protection of first-aiders  | :              | For personal protection see section 8  | i.   |
| SEC <sup>-</sup>  | ΓΙΟ            | N 5. FIREFIGHTING MEASURES   |  |
| Extinguishing media   |                |  |  |
| Suitable extinguishing media  | :              | Use water fog, foam, dry chemical or extinguish flames   | carbon dioxide (CO2)   |
|   |                |  |  |
| Unsuitable extinguishing media  | :              | High volume water jet  |  |
| • •   |                |  |  |
| media   |                |  |  |
| media<br>Special hazards arising from   |                | e substance or mixture   | d unburned   |
| media<br>Special hazards arising from<br>Combustibility<br>Hazardous combustion                                     |                | e substance or mixture<br>Combustible.<br>Metal oxides<br>Carbon monoxide, carbon dioxide an   |  |
| media<br>Special hazards arising from<br>Combustibility<br>Hazardous combustion<br>products                         | • th<br>:<br>: | e substance or mixture<br>Combustible.<br>Metal oxides<br>Carbon monoxide, carbon dioxide an<br>hydrocarbons (smoke).<br>See Section 9 for information on flam   |  |
| media<br>Special hazards arising from<br>Combustibility<br>Hazardous combustion<br>products<br>Flammable properties | • th<br>:<br>: | e substance or mixture<br>Combustible.<br>Metal oxides<br>Carbon monoxide, carbon dioxide an<br>hydrocarbons (smoke).<br>See Section 9 for information on flam   | mability.<br>ed breathing apparatus                                  |



| /ersion 1.1   | Revision Date 27.06.2022   | Print Date 06.02.2023   |
|---|--|---|
| Fire Fighting Instructions  | : Collect contaminated fire extinguis<br>must not be discharged into drains<br>Fire residues and contaminated fir<br>be disposed of in accordance with<br>For safety reasons in case of fire, of<br>separately in closed containments.<br>Use a water spray to cool fully close  | e extinguishing water must<br>local regulations.<br>cans should be stored   |
| SECTION   | 6. ACCIDENTAL RELEASE MEASU  | RES   |
| Personal precautions,<br>protective equipment and<br>emergency procedures | : Advice for emergency responders<br>Ensure adequate ventilation.<br>Use personal protective equipmen<br>Material can create slippery condit<br>For personal protection see section<br><u>Advice for non-emergency personn</u><br>Avoid contact with spilled material.<br>through spilled material.  | ions.<br>n 8.<br>n <u>el</u>  |
| Environmental precautions   | <ul> <li>Prevent entry into waterways, sew confined areas.</li> <li>Local authorities should be advised cannot be contained.</li> <li>Do not flush into surface water or seprevent further leakage or spillage Try to prevent the material from encourses.</li> <li>If the product contaminates rivers a respective authorities.</li> </ul>  | d if significant spillages<br>sanitary sewer system.<br>if safe to do so.<br>itering drains or water  |
| Methods and materials for<br>containment and cleaning<br>up               | <ul> <li>Prevent further leakage or spillage<br/>Large Spills: Dyke far ahead of liquand disposal.</li> <li>Recover by pumping or with suitab</li> <li>Report spills as required to approp<br/>Seek the advice of a specialist before</li> <li>Dispose of according to local regule</li> <li>In the event of a spill or accidental<br/>authorities in accordance with all a<br/>Material will sink to the sediment la<br/>Remove debris in path of spill prior<br/>contaminated debris from shoreling</li> </ul> | uid spill for later recovery<br>ole absorbent<br>vriate authorities.<br>ore using dispersants.<br>lations.<br>release, notify relevant<br>upplicable regulations.<br>ayer<br>r to oiling and remove |
|   | 4 / 18   |   |
|   | Z_MSDS_SG  |   |

SAFETY DATA SHEET according to SS586:2014 AFT-B402 Combustion Catalyst CII Version 1.1 Revision Date 27.06.2022 Print Date 06.02.2023 Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Keep in suitable, closed containers for disposal. Clean contaminated floors and objects thoroughly while observing environmental regulations. Reference to other sections Other information : For personal protection see section 8. See section 13 **SECTION 7. HANDLING AND STORAGE** Precautions for safe handling Avoid formation of aerosol. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Take precautionary measures against static discharges. Provide sufficient air exchange and/or exhaust in work rooms. Dispose of rinse water in accordance with local and national regulations. Ensure all equipment is electrically grounded before beginning transfer operations. Do not spray on a naked flame or any incandescent material. Keep away from open flames, hot surfaces and sources of ignition. Products may load from Apex manufacturing site above the standard loading/unloading range. : 0 °C (32 ° F) - 55 °C (131 ° F) Loading/unloading temperature Viscosity @ : 33 cSt - 338 cSt Loading/unloading temperature Static accumulator : This material is a static accumulator. Conditions for safe storage, including any incompatibilities Keep container tightly closed in a dry and well-ventilated place. Observe label precautions. Nitrogen blanketing is recommended No decomposition if stored and applied as directed. Do not reheat above: 40 °C (104 ° F) : 0 °C (32 ° F) - 40 °C (104 ° F) Storage temperature 5/18 Z MSDS SG



| sion 1.1  | Revision Date 27.06   | .2022  | Print Date 06.02.2023  |
|---|---|--|--|
| Incompatible materials and coatings                             |   | Polystyrene,   | Polypropylene, Styrene   |
| SECTION 8.  | EXPOSURE CONTROLS/PERS  | SONAL PRO  | TECTION  |
| Control parameters / Oc   | cupational Exposure Limits  |  |  |
| Substance name  |   |  |  |
| Form Limit / Standa   | rd  | Note   | Source   |
| Naphtha (petroleum), h  | vdrotreated heavy   | -  |  |
| RCP –<br>TWA  | 1,200 mg/m3   |  | Supplier   |
| RCP –<br>TWA  | 171 ppm   |  | Supplier   |
| Heavy aromatic solvent  |   |  | Supplier   |
|   | 17 ppm 100 mg/m3<br>Is that can be formed when har  | المعالمة المعالم   | Supplier   |
| Occupational exposure of<br>Appropriate engineering<br>controls |   |  | nary conditions of use and   |
| Individual protection me  | asures, such as personal prot   | ective equi  | oment  |
| Respiratory protection  | : In the case of vapour for approved filter.  | ormation use   | a respirator with an   |
| Hand protection   | : Solvent-resistant gloves<br>Before removing gloves<br>Please observe the inst<br>breakthrough time whic<br>gloves. Also take into c<br>conditions under which<br>danger of cuts, abrasion                               | clean them<br>ructions regand<br>h are provide<br>onsideration               | arding permeability and<br>ed by the supplier of the                                       |
|   | When handling hot mat   |  | is used, such as the<br>intact time.   |
| Eye/face protection   | <ul><li>When handling hot mat</li><li>Eye wash bottle with pu<br/>Tightly fitting safety gog</li></ul>  | erial, use he<br>ire water<br>igles<br>ations and s                          | is used, such as the<br>intact time.   |
| Eye/face protection   | <ul> <li>When handling hot mat</li> <li>Eye wash bottle with pu<br/>Tightly fitting safety gog<br/>Ensure that eyewash st<br/>the workstation location</li> <li>Impervious clothing<br/>Choose body protection</li> </ul> | erial, use hea<br>ire water<br>igles<br>ations and s<br>i.<br>n according to | is used, such as the<br>intact time.<br>at resistant gloves.<br>afety showers are close to |

| SAFETY DATA SHEET                |
|----------------------------------|
| according to SS586:2014          |
| AFT-B402 Combustion Catalyst CII |



| Revision Date 27.06.2022 Print Date 06.02.2023  |  |  |  |  |
|---|--|--|--|--|
|   |  |  |  |  |
| Advice on general occupational hygiene  |  |  |  |  |
| : Wash hands before breaks and immediately after handling the product.<br>Remove contaminated clothing and protective equipment before entering eating areas. |  |  |  |  |
| SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES   |  |  |  |  |
| Typical physical and chemical properties are given below. Consult the Supplier in Section 1 for additional data.  |  |  |  |  |
| al and chemical properties  |  |  |  |  |
| : liquid  |  |  |  |  |
| : liquid  |  |  |  |  |
| : dark brown  |  |  |  |  |
| : solvent-like  |  |  |  |  |
| : not determined  |  |  |  |  |
| environmental information   |  |  |  |  |
| : not determined  |  |  |  |  |
| : Not applicable  |  |  |  |  |
| : 1.006 g/cm3 at 15 °C (59 ° F)<br>Method: ASTM D4052   |  |  |  |  |
| : 74 °C (165 ° F)<br>Method: Pensky-Martens Closed Cup (ASTM D93)   |  |  |  |  |
| : not determined  |  |  |  |  |
| : not determined  |  |  |  |  |
| : not determined  |  |  |  |  |
| : Not applicable  |  |  |  |  |
| : not determined  |  |  |  |  |
| : not determined  |  |  |  |  |
| : < 0.1 hPa (< 0.1 mmHg) at 20 °C (68 ° F)<br>estimated   |  |  |  |  |
| : Not applicable  |  |  |  |  |
| 7 / 18<br>z_msds_sg   |  |  |  |  |
|   |  |  |  |  |



| Version 1.1                                | Revision Date 27.06.2022 Print D  | Date 06.02.2023 |
|--|---|-----------------|
| acetate=1)                                 |   |                 |
| рН   | : Not applicable  |                 |
| Partition coefficient: n-<br>octanol/water | : not determined  |                 |
| Water solubility                           | : < 0.0001 g/l<br>estimated   |                 |
| Viscosity, kinematic                       | <ul> <li>1361 mm2/s at -20 °C (-4 ° F)<br/>Method: ASTM D 445<br/>338 mm2/s at 0 °C (32 ° F)<br/>Method: ASTM D 445<br/>119 mm2/s at 20 °C (68 ° F)<br/>Method: ASTM D 445<br/>54 mm2/s at 40 °C (104 ° F)<br/>Method: ASTM D 445<br/>39 mm2/s at 50 °C (122 ° F)<br/>Method: ASTM D 445</li> </ul> |                 |
| Explosive properties                       | : not determined  |                 |
| Oxidizing properties                       | : See sections 3, 15  |                 |
| Decomposition temperature                  | : not determined  |                 |
| Pour point                                 | : not determined  |                 |
| Melting point/freezing point               | : not determined  |                 |
| Other information                          |   |                 |
| DMSO extract by IP346                      | : Less than 3.0 wt% (mineral oil component only)  |                 |
| Coefficient of thermal expansion           | : 0.00071 1/°C ITM 50-020   |                 |
| SECT                                       | TION 10. STABILITY AND REACTIVITY   |                 |
| Reactivity                                 | : No dangerous reaction known under conditions  | of normal use.  |
| Chemical stability                         | : Stable under recommended storage conditions.  |                 |
| Possibility of hazardous reactions         | : Vapours may form explosive mixture with air.  |                 |
| Conditions to avoid                        | : Avoid heat, sparks, open flames and other ignition  | on sources.     |
| Incompatible materials                     | : Strong oxidizing agents   |                 |
|  | 8 / 18  |                 |
|  | Z_MSDS_SG   |                 |



| Version 1.1                          | Revision Date 27.06.2022  | Print Date 06.02.2023 |
|--------------------------------------|---|-----------------------|
| Hazardous decomposition products     | : No decomposition if used as directed.   |                       |
| SECTIO                               | N 11. TOXICOLOGICAL INFORMATION   |                       |
|                                      |   |                       |
| Information on toxicological effe    | ects  |                       |
| Product                              | <b>.</b>  |                       |
| Acute oral toxicity                  | : No data is available on the product itse  | elt.                  |
| Acute inhalation toxicity            | : No data is available on the product itse  | elf.                  |
| Acute dermal toxicity                | : No data is available on the product itse  | elf.                  |
| Skin corrosion/irritation            | : No data is available on the product itse  | elf.                  |
| Serious eye damage/eye<br>irritation | : No data is available on the product itse  | elf.                  |
| Respiratory or skin sensitisation    | : Classification: Does not cause skin ser<br>Result: Product classification based or<br>components.   |                       |
| Germ cell mutagenicity               |   |                       |
| Genotoxicity in vitro                | : No data is available on the product itse  | elf.                  |
| Genotoxicity in vivo                 | : No data is available on the product itse  |                       |
| Carcinogenicity                      | : No data is available on the product itse  | elf.                  |
| Reproductive toxicity                | : No data is available on the product itse  | elf.                  |
| STOT - single exposure               | : Assessment: No data is available on the   | ne product itself.    |
| STOT - repeated exposure             | : Assessment: No data is available on the   | ne product itself.    |
| Aspiration toxicity                  | : No data is available on the product itse  | əlf.                  |
| <u>Components:</u>                   |   |                       |
| <u>components.</u>                   |   |                       |
| Naphtha (petroleum), hydro           | treated heavy:  |                       |
| Acute oral toxicity                  | : LD50 Rat: > 5,000 mg/kg<br>Method: OECD Test Guideline 401<br>Test substance: Read-across (Analogy<br>Remarks: Based on available data, the<br>are not met. |                       |
| Acute inhalation toxicity            | : LC50 Rat: > 5 mg/l<br>Exposure time: 4 h<br>dust/mist<br>Method: OECD Test Guideline 403<br>Test substance: Read-across (Analogy                            | /)                    |
|                                      | 9 / 18  |                       |
|                                      | Z_MSDS_SG   |                       |



| sion 1.1                             | Revision Date 27.06.2022   | Print Date 06.02.2  |
|--------------------------------------|--|---|
|                                      | Remarks: Based on available data, are not met.   | the classification criteria   |
| Acute dermal toxicity                | : LD50 Rabbit: > 5,000 mg/kg<br>Method: OECD Test Guideline 402<br>Test substance: Read-across (Anal<br>Remarks: Based on available data,<br>are not met.  |   |
| Skin corrosion/irritation            | : Species: Rabbit<br>Result: Repeated exposure may ca<br>cracking.<br>Method: OECD Test Guideline 404<br>Test substance:Read-across (Analo<br>Based on available data, the classif   | ogy)  |
| Serious eye damage/eye<br>irritation | : Species: Rabbit<br>Result: No eye irritation<br>Method: OECD Test Guideline 405<br>Test substance: Read-across (Anal<br>Not classified as an eye irritant, but<br>lasting discomfort to the eyes.  |   |
| Respiratory or skin<br>sensitisation | : Test Method: Maximisation Test<br>Species: Guinea pig<br>Result: Does not cause skin sensiti<br>Method: OECD Test Guideline 406<br>Test substance: Read-across (Anal<br>Based on available data, the classif   | logy)   |
| Germ cell mutagenicity               |  |   |
| Genotoxicity in vitro                | <ul> <li>Type: Ames test<br/>Result: negative<br/>Method: OECD Test Guideline 471<br/>Test substance: Read-across (Anal<br/>Based on available data, the classif<br/>Type: Chromosome aberration test<br/>Result: negative<br/>Method: OECD Test Guideline 473<br/>Test substance: Read-across (Anal<br/>Based on available data, the classif</li> </ul> | fication criteria are not m<br>in vitro<br>ogy)                                       |
| Genotoxicity in vivo                 | : Type: In vivo micronucleus test<br>Test species: RatMethod: OECD Te<br>Test substance: Read-across (Anal<br>Result: negativeBased on available<br>criteria are not met.<br>Type: in vivo assay<br>Test species: MouseMethod: OECE<br>Test substance: Read-across (Anal<br>Result: negativeBased on available<br>criteria are not met.                  | est Guideline 478<br>ogy)<br>data, the classification<br>D Test Guideline 474<br>ogy) |
| Carcinogenicity                      | <ul> <li>Species: Mouse</li> <li>Application Route: inhalation (vapor<br/>Test substance: Read-across (Anal</li> </ul>   |   |
|                                      | 10 / 18  |   |
|                                      | Z_MSDS_SG  |   |



| Version 1.1                          | Revision Date 27.06.2022   | Print Date 06.02.2023       |  |  |
|--------------------------------------|--|-----------------------------|--|--|
|                                      | Based on available data, the classific   | ation criteria are not met. |  |  |
| Reproductive toxicity                | : Species: Rat<br>Application Route: inhalation (vapour<br>Test substance: Read-across (Analog<br>Based on available data, the classific | gy)                         |  |  |
| STOT - single exposure               | : Assessment: Based on available data criteria are not met.  | a, the classification       |  |  |
| STOT - repeated exposure             | : Assessment: Based on available data criteria are not met.  | a, the classification       |  |  |
| Aspiration toxicity                  | : May be fatal if swallowed and enters   | airways.                    |  |  |
| Heavy aromatic solvent:              |  |                             |  |  |
| Acute oral toxicity                  | : LD50 Rat: 6,318 mg/kg<br>Method: OECD Test Guideline 401<br>Remarks: Based on available data, th<br>are not met.                       | ne classification criteria  |  |  |
| Acute inhalation toxicity            | <ul> <li>&gt; 4,688 mg/m3<br/>Method: OECD Test Guideline 403<br/>Remarks: Based on available data, th<br/>are not met.</li> </ul>       | ne classification criteria  |  |  |
| Acute dermal toxicity                | : LD50 Rabbit: > 3,160 mg/kg<br>Method: OECD Test Guideline 402<br>Remarks: No mortality observed at th                                  | nis dose.                   |  |  |
| Skin corrosion/irritation            | : Method: OECD Test Guideline 404<br>Test substance:Read-across (Analog<br>Based on available data, the classific                        |                             |  |  |
| Serious eye damage/eye<br>irritation | : Method: OECD Test Guideline 405<br>Test substance: Read-across (Analog<br>Based on available data, the classific                       |                             |  |  |
| Respiratory or skin sensitisation    | : Method: OECD Test Guideline 406<br>Test substance: Read-across (Analog<br>Based on available data, the classific                       |                             |  |  |
| Germ cell mutagenicity               |  |                             |  |  |
| Genotoxicity in vitro                | : Method: OECD Test Guideline 471<br>Test substance: Read-across (Analog<br>Based on available data, the classific                       |                             |  |  |
| Genotoxicity in vivo                 | : Method: OECD Test Guideline 474<br>Test substance: Read-across (Analog<br>Based on available data, the classific                       | gy)                         |  |  |
| Carcinogenicity                      | Based on available data, the classific   |                             |  |  |
| Reproductive toxicity                | : Based on available data, the classific   | ation criteria are not met. |  |  |
|                                      | 11 / 18  |                             |  |  |
|                                      | Z_MSDS_SG  |                             |  |  |



| sion 1.1  | Revision Date 27.06.2022   | Print Date 06.02.20     |  |
|---|--|-------------------------|--|
| STOT - single exposure                              | : Remarks: May cause drowsiness or d   | lizziness               |  |
|   | ·  |                         |  |
| STOT - repeated exposure                            |  |                         |  |
| Aspiration toxicity                                 | : May be fatal if swallowed and enters a   | airways.                |  |
| Butanedioic acid, polyisobut                        | enyl derivs.:  |                         |  |
| Acute oral toxicity                                 | : No data available  |                         |  |
| Acute inhalation toxicity                           | : No data available  |                         |  |
| Acute dermal toxicity                               | : No data available  |                         |  |
| Skin corrosion/irritation                           | : No data available  |                         |  |
| Serious eye damage/eye                              | : Causes serious eye irritation.   |                         |  |
| irritation<br>Respiratory or skin                   | : No data available  |                         |  |
| sensitisation<br>Germ cell mutagenicity             |  |                         |  |
| Genotoxicity in vitro<br>Genotoxicity in vivo       | : No data available  |                         |  |
| Genotoxicity in vivo<br>Carcinogenicity             | : No data available<br>: No data available   |                         |  |
| STOT - single exposure                              | : Remarks: No data available   |                         |  |
| STOT - repeated exposure                            | : Remarks: No data available   |                         |  |
| Aspiration toxicity                                 | : No data available  |                         |  |
| SECTI   | ON 12. ECOLOGICAL INFORMATION  |                         |  |
|   |  |                         |  |
| otoxicity   |  |                         |  |
| <u>Product:</u><br>Toxicity to fish                 | : No data is available on the product its  | olf                     |  |
| -   |  |                         |  |
| Toxicity to daphnia and other aquatic invertebrates | : No data is available on the product its  | self.                   |  |
| Toxicity to algae                                   | : No data is available on the product its  | self.                   |  |
| Components:   |  |                         |  |
| Naphtha (petroleum), hydrot                         | reated heavy:  |                         |  |
| Toxicity to fish                                    | : LC50 (Oncorhynchus mykiss (rainbov<br>Exposure time: 96 h<br>Test Method: semi-static test | v trout)): > 1,000 mg/l |  |
|   | 12 / 18  |                         |  |



| Version 1.1   | Revision Date 27.06.2022   | Print Date 06.02.2023   |
|---|--|-------------------------|
|   | Test substance: Read-across (Analogy)<br>Method: OECD Test Guideline 203<br>Based on available data, the classificatior  | o criteria are not met. |
| Toxicity to daphnia and other aquatic invertebrates | : EL50 (Daphnia magna (Water flea)): > 1,0<br>Exposure time: 48 h<br>Test Method: static test<br>Test substance: Read-across (Analogy)<br>Method: OECD Test Guideline 202<br>Based on available data, the classification   |                         |
| Toxicity to algae                                   | <ul> <li>EL50 (Pseudokirchneriella subcapitata (gr<br/>mg/l</li> <li>Exposure time: 72 h</li> <li>Test Method: static test</li> <li>Test substance: Read-across (Analogy)</li> <li>Method: OECD Test Guideline 201</li> <li>Based on available data, the classification</li> </ul> |                         |
| Heavy aromatic solvent:                             |  |                         |
| Toxicity to fish                                    | : LL50 (Oncorhynchus mykiss (rainbow trou<br>Exposure time: 96 h<br>Toxic to aquatic life with long lasting effec  |                         |
| Toxicity to daphnia and other aquatic invertebrates | : LL50 (Daphnia magna (Water flea)): 3 - 1<br>Exposure time: 48 h<br>Test substance: Read-across (Analogy)   | 0 mg/l                  |
| Toxicity to algae                                   | : EL50 (Pseudokirchneriella subcapitata (al<br>Exposure time: 72 h<br>Test substance: Read-across (Analogy)  | gae)): 1 - 3 mg/l       |
| Butanedioic acid, polyisobut                        | enyl derivs.:  |                         |
| Toxicity to fish                                    | : No data available  |                         |
| Toxicity to daphnia and other                       | : No data available  |                         |
| aquatic invertebrates<br>Toxicity to algae          | : No data available  |                         |
| Persistence and degradability                       |  |                         |
| Product:  |  |                         |
| Biodegradability                                    | : No data is available on the product itself.  |                         |
| Components:   |  |                         |
| Naphtha (petroleum), hydrot                         | reated heavy:  |                         |
| Biodegradability                                    | : aerobic  |                         |
|   | 13 / 18  |                         |
|   | Z_MSDS_SG  |                         |



|  |  | ONEMIOAEO             |
|--|--|-----------------------|
| Version 1.1                                | Revision Date 27.06.2022   | Print Date 06.02.2023 |
|  | Result: Inherently biodegradable.<br>Biodegradation: 31.3 %<br>Exposure time: 28 d<br>Method: OECD Test Guideline 301F<br>Test substance: Read-across (Analogy)<br>According to the results of tests of biode<br>product is not readily biodegradable. |                       |
| Heavy aromatic solvent:                    |  |                       |
| Biodegradability                           | : Result: Inherently biodegradable.<br>Method: OECD Test Guideline 301F  |                       |
| Butanedioic acid, polyisobut               | enyl derivs.:  |                       |
| Biodegradability                           | : No data available  |                       |
| Bioaccumulative potential                  |  |                       |
| Product:                                   |  |                       |
| Bioaccumulation                            | : No data is available on the product itsel  | lf.                   |
| Partition coefficient: n-<br>octanol/water | : not determined   |                       |
| Components:                                |  |                       |
| Naphtha (petroleum), hydroti               | reated heavy:  |                       |
| Bioaccumulation                            | : study scientifically unjustified   |                       |
| Heavy aromatic solvent:                    |  |                       |
| Bioaccumulation                            | : No data available  |                       |
| Butanedioic acid, polyisobut               | enyl derivs.:  |                       |
| Bioaccumulation                            | : No data available  |                       |
| Mobility in soil                           |  |                       |
| Product:                                   |  |                       |
| Mobility<br><u>Components:</u>             | : No data is available on the product itsel  | lf.                   |
| Naphtha (petroleum), hydroti               | reated heavy:  |                       |
| Mobility                                   | : The product evaporates readily.  |                       |
|  | 14 / 18  |                       |
|  | Z_MSDS_SG  |                       |

| AFETY DATA SHEET<br>according to SS586:2014<br>AFT-B402 Combustio | on Catalyst CII   |  |
|---|---|--|
| ersion 1.1  | Revision Date 27.06.2022  | Print Date 06.02.2023                            |
| Butanedioic acid, polyiso   | butenyl derivs.:  |  |
| Mobility  | : No data available   |  |
| esults of PBT and vPvB asse                                       | essment   |  |
| Product:<br>Assessment<br>Components:                             | : No data is available on the product   | itself.  |
| Naphtha (petroleum), hyd  | rotreated heavy:  |  |
| Assessment  | <ul> <li>This substance is not considered to<br/>bioaccumulating and toxic (PBT)., 1<br/>considered to be very persistent an<br/>(vPvB).</li> </ul>   | This substance is not                            |
| Heavy aromatic solvent:   |   |  |
| Assessment  | This substance is not considered to<br>very bioaccumulating (vPvB)., This<br>considered to be persistent, bioacc  | substance is not                                 |
| Butanedioic acid, polyiso<br>Assessment                           | butenyl derivs.:<br>: No data available   |  |
|   |   |  |
| ther adverse effects<br>Product:                                  |   |  |
| Additional ecological information                                 | : None known.   |  |
| SEC   | TION 13. DISPOSAL CONSIDERATIONS  | 8  |
|   | based on material as supplied, Disposal n<br>ions, and material characteristics at time o   |  |
|   | onducting disposal, recycling or reclamation<br>posure control and personal protection.   | n activities, refer to the                       |
| Disposal methods  |   |  |
| -   |   |  |
| Product   | <ul> <li>The product should not be allowed<br/>courses or the soil.</li> <li>Do not contaminate ponds, waterway<br/>chemical or used container.</li> <li>Dispose of contents/ container to an<br/>plant.</li> </ul> | ays or ditches with                              |
| -   | courses or the soil.<br>Do not contaminate ponds, waterwa<br>chemical or used container.<br>Dispose of contents/ container to a   | ays or ditches with                              |
| Product<br>Empty containers.                                      | courses or the soil.<br>Do not contaminate ponds, waterwa<br>chemical or used container.<br>Dispose of contents/ container to a   | ays or ditches with<br>n approved waste disposal |



Version 1.1

Revision Date 27.06.2022

Print Date 06.02.2023

dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

### **SECTION 14. TRANSPORT INFORMATION**

### LAND (ADR)

Not regulated for transport by land

### SEA (IMDG)

Not regulated for transport by sea under IMDG code

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Remarks

Not applicable

AIR (IATA)

Not regulated for transport by air

### SECTION 15. REGULATORY INFORMATION

Safety, health and environmental regulations specific for the product in question

Environmental Protection and Management Act and Environmental Protection and Management (Hazardous Substances) Regulations Not applicable

Fire Safety Act and Fire Safety (Petroleum and Flammable Material) Regulation Not applicable

### National chemical inventory status:

| List<br>USA, Active TSCA Inventory | Status<br>: On the inventory, or in compliance with the inventory |
|------------------------------------|---|
| Canada, DSL Inventory              | : On the inventory, or in compliance with the inventory           |
| Australia, AIIC                    | : On the inventory, or in compliance with the inventory           |
|                                    | 16 / 18   |



| Version 1.1                     | Revision Date 27.06.2022  | Print Date 06.02.2023 |
|---------------------------------|---|-----------------------|
|                                 |   |                       |
| New Zealand, NZIoC              | : On the inventory, or in compliance w  | ith the inventory     |
| Japan, ENCS                     | : On the inventory, or in compliance w  | rith the inventory    |
| Korea, KECI                     | : On the inventory, or in compliance w  | rith the inventory    |
| Philippines, PICCS              | : On the inventory, or in compliance w  | rith the inventory    |
| China, IECSC                    | : On the inventory, or in compliance w  | rith the inventory    |
| Taiwan, TCSI                    | : On the inventory, or in compliance w  | rith the inventory    |
|                                 | rea, your company requires registrations an<br>estances that are subject to K-REACH regis |                       |
| To import this product into the |   |                       |

To import this product into the EU your company requires registrations for all constituent substances that are subject to REACH registration.

### SECTION 16. OTHER INFORMATION

Key to the H-statements contained in sections 2 and 3 of this document.

| H303 | May be harmful if swallowed.                                       |
|------|--|
| H304 | May be fatal if swallowed and enters airways.                      |
| H317 | May cause an allergic skin reaction.                               |
| H319 | Causes serious eye irritation.                                     |
| H336 | May cause drowsiness or dizziness.                                 |
| H373 | May cause damage to organs through prolonged or repeated exposure. |
| H411 | Toxic to aquatic life with long lasting effects.                   |

Revision changes since the previous version are marked in the margins throughout this document

### Sources of key data used to compile the Safety Data Sheet:

International Agency for Research on Cancer International Air Transport Association: Dangerous Goods Regulations. International Maritime Organization: International Maritime Dangerous Goods Code Component supplier data SS586:2014 Singapore Standard on hazard communication for hazardous chemicals and dangerous goods

### Key or legend to abbreviations and acronyms used in the safety data sheet

DSL

: Domestic Substances List (DSL)

17 / 18



| sion 1.1  | Revision Date 27.06.2022  | Print Date 06.02.2   |
|---|---|--|
| NDSL  | : Non-Domestic Substances List (NDS   | H )  |
|   |   |  |
| PICCS   | : Inventory of Chemicals and Chemical   | I Substances (PICCS)   |
| TSCA  | : TSCA Inventory  |  |
| AIIC  | : Australian Inventory of Industrial Che  | micals (AIIC) formerly   |
|   | (AICS)  | . , .  |
| IECSC   | : China. Inventory of Existing Chemica  | I Substances in China  |
| 12000   | (IECSC)   |  |
| ENICO   |   |  |
| ENCS  | : Japan. ENCS - Existing and New Che  | emical Substances  |
|   | Inventory   |  |
| KECI  | : Korea. Korean Existing Chemicals Inv  |  |
| NZIoC   | : New Zealand. Inventory of Chemical  | Substances   |
| EINECS  | : European Inventory of Existing Comm   | nercial Chemical   |
|   | Substances (EINECS)   |  |
| ELINCS  | · · · · · · · · · · · · · · · · · · ·   | Substances (ELINCS)  |
|   | : European List of Notified Commercial  |  |
| TCSI  | : Taiwan Chemical Substance Inventor  | ry   |
| ATE   | : Acute toxicity estimate   |  |
| STEL  | : Short term exposure limit   |  |
| TWA   | : Time weighted average   |  |
| LC50  | : Lethal Concentration to 50 % of a tes   | st population  |
| LD50  | : Lethal Dose to 50% of a test population   |  |
| PPE   | : Personal Protection Equipment   | on (median Lethal Dose)  |
| warranty (express or imp<br>completeness of the in<br>responsibility to satisfy in<br>such information for its<br>infringement; and Apex s<br>from the use of this infor<br>No statement shall be con-<br>certainty, before use of<br>used for a purpose or u | riding obligations arising under a specific con<br>blied), or guarantee is made as to the suitabilit<br>information; nothing in this document sh<br>itself as to the suitability, accuracy, reliability<br>particular use; there is no warranty again<br>shall not be liable for any loss, damage or injur<br>mation other than death or personal injury ca<br>onstrued as an endorsement of any product<br>information contained in this document, part<br>inder conditions which are abnormal or not ne<br>reviewed with the supplier of such information | y, accuracy, reliability or<br>nall reduce the user's<br>y, and completeness of<br>nst intellectual property<br>ry that may occur<br>aused by its negligence.<br>or process. For greater<br>ticularly if the product is<br>reasonably foreseeable, |
| Revision Date   | : 27.06.2022  |  |
| Issuing date  | : 06.02.2023  |  |
|   |   |  |
|   |   |  |