Material Characterization Form

Information used for classification according to § 5 of S30 is in green-tinted fields. Pull-down menus are provided for those fields that have a short list of valid entries.

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| **Material Characterization** | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Chemical Name (Other Names)** | | | | | | | | **CAS No.** | | | **Molecular Formula** | | | **Molecular Weight** | | | | **Phase of Matter**  Phase | **Melting Point [°C]** | | **Boiling Point [°C]** | | **Vapor Pressure [Pa at °C]** | | **Density [g/mL at °C]** | **Relative Vapor Density** (air = 1) | | **Specific Volume [mL/g]** |
| **Category** (according to IFC)  None | | | | **Autoignition Temp (AIT) [°C]** | | | | **UN\_TDG\_MTC pyrophoric liquid or solid test result.**  Not Tested | | | | | **LFL [%]** | | | | **UFL [%]** | **Flammability Range [%]** | | **Flash Point [°C]** | | **Rationale for Assignment** (SDS, Other reference, observed behavior) | | | | **Meets SEMI S30 definition of “pyrophoric”?**  **No** | | |
| **Results of UN\_TDG\_TMC *Test method for substances which in contact with water emit flammable gases*?**  Not Tested | | | | | | | | **Result of other test for flammable gas production and spontaneous ignition**  Not Tested | | | | | | | | **Observed behavior when in contact with water**  Not Tested | | | **Rationale for predicting that material will react with water to produce ≥ 10 liter/kg-min of flammable gas or to exhibit spontaneous ignition** | | | | | | | | | |
| **NFPA 704 Water Reactive Class**)  None | | **Heat of Reaction [joule/g]** | | | | **Gas generated upon reaction with water?** Type, rate, and identity: -Flammable gas  -Toxic gas  - Pressurizing gas | | | | | | **Supporting Data (**Including: •  Stoichiometry and thermodynamics of reaction with water and with oxygen, including any byproducts which would be flammable or otherwise hazardous •  Calorimetry results that show the time evolution of heat under defined reaction conditions) | | | | | | | | | | | | | | | **Meets SEMI S30 definition of “water reactive”?**  **No** | |
| **Instability Rating** (according NFPA 704)  None | | | **Instantaneous Power Density (IPD)** (according NFPA 704) **[W/mL]** | | | | **Exothermic Initiation Temperature [°C]** | | | **Supporting Data** 1) For IPD, indicate source of data to determine reaction rate and enthalpy of decomposition to calculate IDP. 2) For Exothermic Initiation Temperature, indicate source of data (*e.g.* , DSC, ARC measurements). 3) Indicate any other rationale used to assign Instability Rating 4) Method used for data provided | | | | | | | | | | | | | | | | | **Meets SEMI S30 definition of “hazardously exothermic”?**  **No** | |
| **Oxidizer Class** (according to IFC, Chapter 2 (Definitions) and Appendix E “Hazard Categories”)  None | | | | | | | | | | | | | | | **Rationale for Oxidizer Class Assignment** | | | | | | | | | | | | | |
| **Corrosive** (according to IFC, Chapter 2 (Definitions) and Appendix E “Hazard Categories”)  Unknown | | | | | | | | | | | | | | | **Indicate testing results or rationale for classification as corrosive** | | | | | | | | | | | | | |
| **List Products. Indicate chemical reactions where known.** (For new materials or new use by a user, provide internal product safety byproduct quantitative or predictive model evaluation data.)  **Thermal Decomposition Products** (indicate temperature of decomposition):  **Products formed on oxidation**:  **Products formed on combustion:**  **Products formed on hydrolysis:**  **Products formed during processing** (indicate process and chemistries involved): | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Toxicity Classification** (according to IFC)  None | **LD50, Oral, rat [mg/kg]** | | | | **LD50, Contact, albino rabbit [mg/kg]** | | | | **LC50, 1 hour, rat [ppm] for gas, [mg/L] for mist, fume, or dust** | | | | | | | | **GHS Hazard Class**  None  None  None  None | | | | | | | **GHS Hazard Category or Group**  None  None  None  None | | | **Meets SEMI S30 definition of “energetic material”?**  **No** | |