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 Rating4) 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**NoneNoneNoneNone | **GHS Hazard Category or Group**NoneNoneNoneNone | **Meets SEMI S30 definition of “energetic material”?****No** |