

## Material Safety Data Sheet

Company: DALCHEM, MOSKOVSKOE SHOSSE, 85, Nizhny Novgorod, 603000, RUSSIA TEL: + 7 (8312) 753-772, FAX: +7 (8312) 750-799

|  | SECTION   | 1: P  | roduct Ide   | entification      |               |                    |
|--|---|---|--------------|-------------------|---------------|--------------------|
| Product name                                       | (i-Propylimido)tris(  | dietl   | nylamino)ni  | obium             |               |                    |
| CAS#   | NA  |   |              |                   |               |                    |
| Catalog #  | 0410460   |   |              |                   |               |                    |
| Chemical family                                    | Organic metal deriv   | vativ   | es           |                   |               |                    |
| • 1 5  |   |   |              |                   |               |                    |
| SECTION 2: Composition, Information on Ingredients |   |   |              |                   |               |                    |
| Component  |   | %   | CAS#         | EINECS #          | Hazard        | R-Phrase           |
| P  |   |   |              |                   | Symbol        |                    |
| (i-Propylimido)tris(diethylamino)niobium           |   |   | NA           | none              | F Xn          | 10 14 20/21/22     |
|  |   |   |              |                   |               |                    |
|  |   |   |              |                   |               |                    |
| SECTION 3: Hazard Identification                   |   |   |              |                   |               |                    |
| Emergency overview                                 | Flammable liquid.   | Reac  | ts with wate | er. Harmful by i  | nhalation, if | swallowed and if   |
| _ •  | absorbed through th   |   |              |                   |               |                    |
| Eye contact  | May cause irritation of the eyes.   |   |              |                   |               |                    |
| Skin contact                                       | May cause irritation of the skin.   |   |              |                   |               |                    |
| Inhalation   | May be harmful if inhaled. May cause severe irritation of the respiratory tract.  |   |              |                   |               |                    |
| Ingestion  | Harmful if swallow  |   |              |                   |               |                    |
| <b>Chronic health effects</b>                      | No available information about long-term effects.                                 |   |              |                   |               |                    |
|  |   |   |              |                   |               |                    |
| SECTION 4: First Aid Measures                      |   |   |              |                   |               |                    |
| Eye exposure                                       | Immediately flush   | eyes  | with plenty  | of water for at l | east 15 minu  | ites, occasionally |
|  | lifting the upper and   |   |              |                   |               |                    |
| Skin exposure                                      | Wash the affected   |   |              |                   | minated clot  | thes if necessary. |
|  | Seek medical assist   |   |              | 1                 |               |                    |
| Inhalation   | Remove from exposure to fresh air immediately. If not breathing, give artificial  |   |              |                   |               |                    |
|  | respiration. If breathing is difficult, give oxygen. In such cases seek immediate |   |              |                   |               |                    |
|  | medical assistance.   |   |              |                   |               |                    |
| Ingestion  |   | Don't induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk |              |                   |               |                    |
|  | or water. Get medic   | cal ai  | d immediate  | ely.              |               |                    |
|  |   |   |              |                   |               |                    |
|  | SECTION :   |   |              | -                 |               |                    |
| General information                                | Flammable liquid. As in any fire, wear a self-contained breathing apparatus in    |   |              |                   |               |                    |
|  | pressure-demand, I  |   |              |                   |               | nd full protective |
| 77 (1 1 1 1 1 1 1                                  | _   | gear. If involved in fire material may emit toxic fumes.                          |              |                   |               |                    |
| Extinguishing media                                | Don't use water. Us   | se dr   | y chemical o | or carbon dioxic  | ie.           |                    |
|  |   |   |              |                   |               |                    |
| SECTION 6: Accidental Release Measures             |   |   |              |                   |               |                    |
| Spill and leak                                     | Small spills can be mixed with vermiculite or other suitable inert absorbents and |   |              |                   |               |                    |
| procedures   | placed in a suitable container. Ventilate area after material is removed.         |   |              |                   |               |                    |

|                               | SECTION 7: Handling and Storage  |  |  |  |
|-------------------------------|--|--|--|--|
| Handling                      | Avoid inhalation. Don't get in eyes, on skin or on clothing. Handle under an   |  |  |  |
|                               | inert atmosphere of argon or nitrogen.   |  |  |  |
| Storage                       | Store in a cool, dry place. Keep away from heat, sparks and open flame. Avoid  |  |  |  |
|                               | contact with water. Store in a tightly closed container under an inert atmosphere.   |  |  |  |
|                               |  |  |  |  |
|                               | CTION 8: Exposure Controls and Personal Protection   |  |  |  |
| Eye protection                | Always wear approved safety glasses when handling a chemical substance in the  |  |  |  |
|                               | laboratory.  |  |  |  |
| Skin protection               | Wear protective gloves.  |  |  |  |
| Ventilation                   | Handling material in an efficient fume hood. Work with this substance in a well-   |  |  |  |
| <b>D</b> • •                  | ventilated area.   |  |  |  |
| Respirator                    | Follow the OSHA respirator regulations found in 29CFR 1910.134 or Europe Standard EN 140 Alexandre NIOSH at Every and EN 140 Alexandre NIO |  |  |  |
|                               | Standard EN 149. Always use a NIOSH or European Standard EN 149 approved   |  |  |  |
|                               | respirator when necessary.   |  |  |  |
|                               | SECTION 9: Physical and Chemical Properties  |  |  |  |
| Appearance                    | Yellow liq.  |  |  |  |
| Odor                          | No data  |  |  |  |
| Melting point                 | No data  |  |  |  |
| Boiling point                 | No data  |  |  |  |
| Flash point                   | No data  |  |  |  |
| Solubility in water           | Reacts with water  |  |  |  |
| Specific gravity              | $0.9 \text{ g/cm}^3$   |  |  |  |
| Molecular formula             | C15H37N4Nb   |  |  |  |
| Molecular weight              | 366.39   |  |  |  |
|                               | SECTION 10: Stability and Reactivity   |  |  |  |
| Stability                     | Air and moisture sensitive.  |  |  |  |
| Hazardous                     | No hazardous polymerization.   |  |  |  |
| polymerization                | The manufactor performance in  |  |  |  |
| Conditions to avoid           | Contact with air, moisture and ignition sources.   |  |  |  |
| <b>Incompatibilities with</b> | Strong oxidizing agents.   |  |  |  |
| other materials               |  |  |  |  |
| Hazardous decompo-            | Carbon monoxide, carbon dioxide, nitrogen oxides, niobium oxides.  |  |  |  |
| sition products               |  |  |  |  |
|                               |  |  |  |  |
|                               | SECTION 11: Toxicological Information  |  |  |  |
| RTECS Data                    | No data available.   |  |  |  |
| Carcinogenic effects          | No data available.   |  |  |  |
| Mutagenic effects             | No data available.   |  |  |  |
| Tetratogenic effects          | No data available.   |  |  |  |
|                               |  |  |  |  |
|                               | SECTION 12: Ecological Information   |  |  |  |
| Ecological                    | No information available.  |  |  |  |
| information                   |  |  |  |  |
|                               | •  |  |  |  |

## **SECTION 13: Disposal Considerations**

| D'  |  |  |  |  |  |
|---|--|--|--|--|--|
| Dispose of in a manner consistent with federal, state, and local regulations. |  |  |  |  |  |
|   |  |  |  |  |  |
| SECTION 14: Transport Information   |  |  |  |  |  |
| Shipping name (CFR)   | Organometallic substance, liquid, water-reactive, flammable* |  |  |  |  |
| Hazard class (CFR)  | 4.3  |  |  |  |  |
| Additional hazard   | NA   |  |  |  |  |
| class (CFR)   |  |  |  |  |  |
| Packing group (CFR)   | II   |  |  |  |  |
| UN ID number (CFR)  | 3399   |  |  |  |  |
| Shipping name   | Organometallic substance, liquid, water-reactive, flammable* |  |  |  |  |
| (IATA)  |  |  |  |  |  |
| Hazard class (IATA)   | 4.3  |  |  |  |  |
| Additional hazard   | NA   |  |  |  |  |
| class (IATA)  |  |  |  |  |  |
| Packing group   | II   |  |  |  |  |
| (IATA)  |  |  |  |  |  |
| UN ID number  | 3399   |  |  |  |  |
| (IATA)  |  |  |  |  |  |
|   |  |  |  |  |  |
| SECTION 15: Regulatory Information  |  |  |  |  |  |
| TSCA  | Not listed in the TSCA inventory                             |  |  |  |  |
| SARA  | Not reported   |  |  |  |  |
|   |  |  |  |  |  |
| SECTION 16: Other Information   |  |  |  |  |  |
| Preparation date  | 30.06.09   |  |  |  |  |
| Revision date   | 17.08.09   |  |  |  |  |
|   |  |  |  |  |  |

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