Safety Data Sheet

1. Identification of the substance/mixture and of the company/undertaking
   
   Product identifier:
   
   - Product name: tert-Butyldimethylchlorosilane
   - Product code (SDS NO): 1211E-1

   Details of the supplier of the safety data sheet
   
   - Manufacturer/Supplier: KISHIDA CHEMICAL CO., LTD.
   - Address: 3-1, Honmachibashi, Chuo-ku, Osaka 540-0029, JAPAN
   - Division: Safety Management Dept. of Chemicals
   - Telephone number: +81-6-6946-8061
   - FAX: +81-6-6946-1607
   - e-mail address: kagakuhinanzenkanri@kishida.co.jp

2. Hazards identification
   
   GHS classification and label elements of the product
   
   Classification of the substance or mixture
   
   Physico-chemical hazards
   - Flammable solids: Category 1

   HEALTH HAZARDS
   - Skin corrosion/irritation: Category 1A
   - Serious eye damage/eye irritation: Category 1

   (Note) GHS classification without description: Not applicable/Out of classification/Not classifiable

   Label elements

   Signal word: Danger

   HAZARD STATEMENT
   - Flammable solid
   - Causes severe skin burns and eye damage
   - Causes serious eye damage

   PRECAUTIONARY STATEMENT
   
   Prevention
   - Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
   - Ground/bond container and receiving equipment.
   - Use explosion-proof electrical/ventilating/lighting equipment.
   - Do not breathe dust/fume/gas/mist/vapors/spray.
   - Wash contaminated parts thoroughly after handling.
   - Wear protective gloves, protective clothing or face protection.
   - Wear eye protection/face protection.

   Response
   - In case of fire: Use appropriate media other than water for extinction.
   - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
   - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
   - Wash contaminated clothing before reuse.
   - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if
present and easy to do. Continue rinsing.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

Disposal
Dispose of contents/container in accordance with local/national regulation.

Physical and Chemical hazards
Flammable solid. Vapor/air mixture may explode.

3. Composition/information on ingredients
Mixture/Substance selection:

Substance
Ingredient name: tert-Butyldimethylchlorosilane
Content(%): 95 (min)
Chemical formula: C₆H₁₅ClSi
Chemicals No., Japan: 2-2041
CAS No.: 18162-48-6
MW: 150.72
ECNO: 242-042-4

Note: The figures shown above are not the specifications of the product.

4. First-aid measures
Descriptions of first-aid measures

IF INHALED
Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER or doctor/physician if you feel unwell.

IF ON SKIN (or hair)
Take off immediately all contaminated clothing. Rinse skin with water/shower.
If skin irritation or rash occurs: Get medical advice/attention.

IF IN EYES
Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy
to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.

IF SWALLOWED
Rinse mouth. Do NOT induce vomiting.
Call a POISON CENTER or doctor/physician if you feel unwell.

5. Fire-fighting measures
Extinguishing media

Suitable extinguishing media
Use appropriate extinguishing media suitable for surrounding facilities.

Specific hazards arising from the substance or mixture
Containers may explode when heated.
Fire may produce irritating, corrosive and/or toxic gases.

Advice for firefighters
Specific fire-fighting measures
Evacuate non-essential personnel to safe area.

Special protective equipment and precautions for fire-fighters
Wear fire/flame resistant/retardant clothing.
Wear protective gloves/protective clothing/eye protection/face protection.
Firefighters should wear self-contained breathing apparatus with full face piece operated
positive pressure mode.
6. Accidental release measures
   Personnel precautions, protective equipment and emergency procedures
   Ventilate area after material pick up is complete.
   Wear proper protective equipment.
Methods and materials for containment and cleaning up
   Sweep up, place in a bag and hold for waste disposal.
Preventive measures for secondary accident
   Collect spillage.

7. Handling and storage
   Precautions for safe handling
   Preventive measures
   (Exposure Control for handling personnel)
   Do not breathe dust/fume/gas/mist/vapors/spray.
   (Protective measures against fire and explosion)
   Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
   Ground/bond container and receiving equipment.
   Use explosion-proof electrical/ventilating/lighting equipment.
   Exhaust/ventilator
   Exhaust/ventilator should be available.
Safety treatments
   Avoid contact with skin.
   Avoid contact with eyes.
Safety Measures/Incompatibility
   Wear protective gloves, protective clothing or face protection.
   When using do not eat, drink or smoke.
Conditions for safe storage, including any incompatibilities
   Recommendation for storage
   Keep container tightly closed.
   Store in a cool, dry place. Do not store in direct sunlight.

8. Exposure controls/personal protection
   Exposure controls
   Appropriate engineering controls
   Do not use in areas without adequate ventilation.
   Eye wash station should be available.
   Washing facilities should be available.
   Individual protection measures
   Respiratory protection
   Wear respiratory protection.
   Hand protection
   Wear protective gloves.
   Eye protection
   Wear eye/face protection.
   Safety and Health measures
   Wash thoroughly after handling.
   Wash contaminated clothing before reuse.
9. Physical and Chemical Properties
   Information on basic physical and chemical properties
   Physical properties
   Appearance: Crystalline powder
   Color: White
   Odor: Pungent odor
   Phase change temperature
   Initial Boiling Point/Boiling point: 125°C (257°F)
   Melting point/Freezing point: 90°C (194°F)
   Decomposition temperature data N.A.
   Flash point: (tert-Butyldimethylchlorosilane)(C.C.) 28°C (82.4°F)
   Auto-ignition temperature data N.A.
   Explosive properties data N.A.
   Vapor pressure: 1.9 kPa (20°C)
   Vapor density data N.A.
   Relative Vapor Density (Air=1): 5.2
   Specific gravity/Density: 1.23 (25°C)
   Solubility
   Solubility in water: Insoluble (hydrolysis)
   n-Octanol /water partition coefficient data N.A.

10. Stability and Reactivity
    Chemical stability
    Stable under normal storage/handling conditions.
    Conditions to avoid
    Contact with incompatible materials.
    Contact with fire source.
    Incompatible materials
    Bases, Strong oxidizing agents, Water, Alcohol
    Hazardous decomposition products
    Carbon oxides, Hydrogen chloride, Silicon dioxide

11. Toxicological Information
    Information on toxicological effects
    Acute toxicity
    Acute toxicity (Dermal)
    [Company proprietary data]
    (tert-Butyldimethylchlorosilane)
    mouse LD50=1449 mg/kg
    Acute toxicity (Inhalation)
    [Company proprietary data]
    (tert-Butyldimethylchlorosilane)
    mouse LC50=1108 ppm/1hr
    rat LC50=3124 ppm/1hr
    No Irritant properties data available
    No Allergenic and sensitizing effects data available
    No Mutagenic effects data available
    No Carcinogenic effects data available
    No Teratogenic effects data available
    No reproductive toxicity data available
    No STOT—single/repeated exposure data available
No Aspiration hazard data available
Additional data
May cause lung disorders by massive inhalation of powdered substance.
- e.g. fibrosis of lung tissue, cough, sputum, breath shortness, dyspnea, decline of lung function, interstitial lung disease, pneumothorax

12. Ecological Information
Ecotoxicity
Aquatic toxicity
Aquatic acute toxicity component(s) data
[Company proprietary data]
(tert-Butyldimethylchlorosilane)
Fish(Gambusia affinis) LC50=282mg/L/96hr
No Persistence and degradability data available
No Bioaccumulative potential data available
No Mobility in soil data available
Ozone depleting chemical data not available

13. Disposal considerations
Waste treatment methods
Dispose of contents/container in accordance with local/national regulation.

14. Transport Information
UN number: 2925
UN proper shipping name:
FLAMMABLE SOLID, CORROSIVE, ORGANIC, N.O.S.
Transport hazard class(es): 4.1
Transport subsidiary risks: 8
Packing group: II
ERG GUIDE NO.: 134
Special provisions NO.: 274; A3; A803

15. Regulatory Information
Safety, health and environmental regulations/legislation specific for the substance or mixture
US major regulations
TSCA
tert-Butyldimethylchlorosilane
Other regulatory information
Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

16. Other information
GHS classification and labelling
Flam. Sol. 1: H228 Flammable solid
Skin Corr. 1A: H314 Causes severe skin burns and eye damage
Eye Dam. 1: H318 Causes serious eye damage
Reference Book
Globally Harmonized System of classification and labelling of chemicals, (5th ed., 2013), UN Recommendations on the TRANSPORT OF DANGEROUS GOODS 19th edit., 2015 UN
Classification, labelling and packaging of substances and mixtures (table3-1 ECNO6182012)  
2016 EMERGENCY RESPONSE GUIDEBOOK (US DOT)  
2017 TLVs and BEIs. (ACGIH)  
http://monographs.iarc.fr/ENG/Classification/index.php  
Supplier’s data/information  
Hazard Communication Standard – 2012  

General Disclaimer  
This information contained in this data sheet represents the best information currently available to us. However, no warranty is made with respect to its completeness and we assume no liability resulting from its use. It are advised to make their own tests to determinate the safety and suitability of each such product or combination for their own purposes.  
The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the products’ properties.  
The GHS classification data given here is based on current Japan official data (NITE published in 2016).