SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Product Identifier	Thalidomide
Product Number	T113
CAS Number	[50-35-1]
EC Number	[200-031-1]

1.2 Relevant identified uses of the substance or mixture and uses advised against

Recommended Use	Cancer and immunomodulatory research.
Restrictions of Use	Not for human or animal use

1.3 Details of the supplier of the safety data sheet

Distributor Name	TOKU-E Company
Distributor Address	715 W Orchard Dr. Suite 3 Bellingham, WA 98225
Phone Number	(360)734-1789
E-mail Address	info@toku-e.com
Safety Data Sheet Issued by	TOKU-E Company (USA)

1.4 Emergency telephone number

Emergency Phone Number (International)	+1 (352) 353-3500
Emergency Phone Number (US Only)	1 (800) 535-5053

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GHS Classification

Acute toxicity, oral (Category 3)
Acute toxicity, dermal (Category 3)
Reproductive toxicity (Category 1A)

(Please refer to Section 16 for regulatory information)

2.2 Label elements, including precautionary statements

GHS Label Elements:

Signal Word: Danger

Hazard Statements

H301+H311	Toxic if swallowed or in contact with skin
H360	May damage fertility or the unborn child

Precautionary Statements

P264	Wash hands/skin thoroughly after handling.
P270	Do not eat, drink, or smoke when using this product.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352	IF ON SKIN: Wash with plenty of water/soap
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
P312	Call a POISON CENTER/doctor if you feel unwell.
P321	Specific treatment, see applicable response statements on this label
P330	Rinse mouth
P361+P364	Take off immediately all contaminated clothing and wash it before reuse
P405	Store locked up.
P501	Dispose of contents/container in accordance with governmental regulation
P201	Obtain special instructions before use
P202	Do not handle until all safety precautions have been read and understood
P308+P313	IF exposed or concerned: Get medical advice/attention.

2.3 Other hazards which do not result in classification

Hazards not otherwise classified (HNOC) by GHS No Data Available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Synonym(s)	1H-Isoindole-1,3(2H)-dione, 2-(2,6-dioxo-3-piperidinyl)-, Imidene, alpha-Phthalimidoglutarimide, Polygripan, Sedimide, Softenil
Formula	$C_{13}H_{10}N_2O_4$
Molecular Weight	258.23
CAS Number	[50-35-1]
EC Number	[200-031-1]
Hazardous Ingredients	Thalidomide Acute toxicity, oral (Category 3) Acute toxicity, dermal (Category 3) Reproductive toxicity (Category 1A)

SECTION 4: FIRST-AID MEASURES

4.1 Description of first-aid measures

General Advice	Consult a doctor/physician if exposed - additional medical care may be required. Show this Safety Data Sheet to the medical provider.
If Inhaled	If inhaled, move to fresh air. If not breathing, give artificial respiration and immediately call local emergency telephone number.
In Case of Skin Contact	Wash skin thoroughly with soap and water.
In Case of Eye Contact	Flush eye with water. After initial flush, remove any

	contact lenses and continue flushing for at least 15 minutes.
If Swallowed	Rinse mouth with water. Immediately call a doctor, physician, or poison control center. Never give anything by mouth to an unconscious person.

4.2 Most important symptoms/effects, acute and delayed

Specific Treatment	Please see Section 2 and Section 11.

4.3 Indication of immediate medical attention and special treatment needed, if necessary

No Data Available

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable Extinguishing Media	Water spray, alcohol-resistant foam, dry chemical, carbon dioxide

5.2 Special hazards arising from the substance or mixture

Hazardous Combustion Products	Formed under fire conditions: carbon and nitrogen oxides, carbon monoxide, hydrogen peroxide

5.3 Advice for firefighters

Special Protective Equipment for Firefighters	Wear self-contained breathing apparatus

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

General	Evacuate personnel to a safe location. Use appropriate personal protective equipment while in contact with product. Avoid dust formation. Ensure adequate ventilation.
Personal Precautions	Prevent contamination of skin, eyes and clothing with appropriate protective equipment (Section 8). Wear respiratory protection.

6.2 Environmental precautions

General	Recover waste, if possible, and place in suitable closed container for licensed disposal. Prevent spillage - do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

	The recommended course of action is to treat any incident that involves the spill/release of a chemical substance as if it were hazardous in nature until the appropriate personnel have been consulted. Wear

	personal protective equipment as necessary. If accessible, use a spill kit. For powder spills, avoid generating dust during cleanup.
6.4 Reference to other sections	Refer to section 8 for exposure control. Refer to section 13 for disposal information.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling	Wear appropriate protective clothing/gear to prevent contact with skin and eyes. Provide exhaust ventilation or respiratory protection in areas where dust is formed.
7.2 Conditions for safe storage, including any incompatibilities	
	Store in a tightly closed container. Protect from humidity.
Incompatibilities	No Data Available
7.3 Specific end use(s)	Refer to section 1.2

SECTION 8: EXPOSURE CONTROLS/ PERSONAL PROTECTION

8.1 Control parameters

Contains no substance/substances with occupational exposure limit values

OSHA Permissible Exposure Limits	No Data Available
NIOSH Recommended Exposure Limits	No Data Available
ACGIH Threshold Limit Values	No Data Available

8.2 Exposure controls

PPE: Respiratory protection	Where risk assessment shows air-purifying respirators are appropriate, use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU)
PPE: Hand Protection	Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal techniques to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices, and wash and dry hands
PPE: Eye Protection	Use a face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU)

PPE: Skin and Body Protection	Handle with gloves. Wear protective clothing. Choose body protection according to the amount and concentration of the dangerous substance at the work place. When deemed needed according to the concentration and amount of this product, use a complete body suit

SECTION 9: PHYSICAL/CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	Powder
Odor	No Data Available
Odor Threshold	No Data Available
pH	No Data Available
Melting Point/Freezing Point	No Data Available
Initial Boiling Point and Range	No Data Available
Flash Point	No Data Available
Evaporation rate	No Data Available
Flammability (solid, gas)	No Data Available
Upper Flammability/Explosion Limit	No Data Available
Lower Flammability/Explosion Limit	No Data Available
Vapor Pressure	No Data Available
Vapor Density	No Data Available
Relative Density	No Data Available
Water Solubility	No Data Available
Solubility in Other Solvents	No Data Available
Partition Coefficient: n-octanol/water	No Data Available
Auto-Ignition Temperature	No Data Available
Decomposition Temperature	No Data Available
Viscosity	No Data Available
Explosive Properties	No Data Available
Oxidizing Properties	No Data Available
Optical Rotation	No Data Available
Absorbance (290nm, 5% in H_2O)	No Data Available
Water Content (Loss on Drying)	No Data Available

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity	No Data Available
10.2 Chemical stability	Stable under recommended storage conditions
10.3 Possibility of hazardous reactions	No Data Available
10.4 Conditions to avoid	No Data Available
10.5 Incompatible materials	Strong oxidizing agents
10.6 Hazardous decomposition products	Formed under fire conditions: carbon and nitrogen oxides, carbon monoxide, hydrogen peroxide

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Oral LD_{50}	Rat: 113 mg/kg
Inhalation LC_{50}	No Data Available
Dermal LD_{50}	Rat: 1550 mg/kg
Intraperitoneal LD_{50}	Rat: >6 gm/kg
Intravenous LD_{50}	No Data Available
Subcutaneous LD_{50}	Rat: >5 gm/kg
Skin Corrosion/Irritation	No Data Available
Serious Eye Damage/ Eye Irritation	No Data Available
Respiratory or Skin Sensitization	No Data Available
Germ Cell Mutagenicity	No Data Available
Carcinogenicity	This substance has not been identified as a potential carcinogen within the National Toxicology Program Report on Carcinogens or within the International Agency for Research on Cancer Monograph.
Reproductive Toxicity	**Human: Woman, TDLo 2 mg/kg, oral** 30 days post conception
Toxic Effects	Reproductive - Specific Developmental Abnormalities - musculoskeletal
	Human: Woman, TDLo 17500 ug/kg, oral 1-5 weeks post conception
Toxic Effects	Reproductive - Specific Developmental Abnormalities - musculoskeletal, cardiovascular
	Rat: Male, TDLo 560 mg/kg, oral 14 days pre-mating
Toxic Effects	Reproductive - Specific Developmental Abnormalities - craniofacial
	Rat: Female, TDLo 200 mg/kg, oral 15 days pre-mating
Toxic Effects	Reproductive - Specific Developmental Abnormalities - skin and skin appendages, musculoskeletal
Specific Target Organ Toxicity: Single Exposure (GHS)	No Data Available
Specific Target Organ Toxicity: Repeated Exposure (GHS)	No Data Available
Aspiration Hazard	No Data Available
Potential Heath Effects	See Section 2, Hazard(s) Identification
Signs and Symptoms of Exposure	To the best of our knowledge, the chemical, physical, and toxicological properties of this material have not been thoroughly investigated
Synergistic Effects	No Data Available
Additional Information	No Data Available

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity No Data Available

12.2 Persistence and degradability	No Data Available
12.3 Bioaccumulative potential	No Data Available
12.4 Mobility in Soil	No Data Available
12.5 PBT and vPvB assessment	No Data Available
12.6 Other adverse effects	No Data Available

In the absence of complete ecological information, treat product as environmentally hazardous. Use proper storage, handling, and disposal to prevent unintentional release into the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Dispose unused/spoiled product in accordance with local and federal regulations.
Sewering is not an acceptable form of waste disposal.

Product	Dispose of product through a licensed disposal company.
Contaminated Packaging	Dispose of as unused product.

SECTION 14: TRANSPORTATION INFORMATION

DOT (US)	UN Number: 2811 Class 6.1, Packing group III Proper shipping name: Toxic solids, organic, n.o.s. (Thalidomide) Marine pollutant: No Poison inhalation hazard: no
IMDG	UN Number: 2811 Class 6.1, Packing group III Proper shipping name: TOXIC SOLID, ORGANIC, N.O.S. (Thalidomide) EMS-no. F-A, S-A Marine pollutant: No
IATA	UN Number: 2811 Class 6.1, Packing group III Proper shipping name: Toxic solid, organic, n.o.s. (Thalidomide)

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Section 2/3: Hazards identification/labelling in accordance with OSHA 29 CFR 1910.1200

SARA 302 Components	No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
SARA 313 Components	No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 313.
SARA 311/312 Hazards	No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 311/312
Massachusetts Right to Know	No components are subject to the Massachusetts Right to Know Act
Pennsylvania Right to Know	No components are subject to the Pennsylvania Right to Know Act
New Jersey Right to Know	No components are subject to the New Jersey Right to Know Act
California Prop. 65 Components	Reproductive WARNING! This product contains a chemical known to the State of California to cause birth defects or other developmental harm
EU Information	SDS in accordance with Regulation (EC) 1907/2006 EC Number [200-031-1] CAS Number [50-35-1] Name: Thalidomide Envisaged Registration Deadline: 30/11/2010 Information under Section 2, Hazard Identification, classification and labelling in accordance with Regulation (EC) 1272/2008 Information under Section 3, Hazardous components according to Regulation (EC) No 1272/2008

15.2 Chemical safety assessment

EU Information	For this product a chemical safety assessment was not carried out

16. OTHER INFORMATION

Revision Date: 2017-06-19

This safety data sheet represents TOKU-E Company's current understanding of the hazards associated with this product. The stated hazard information is based on existing experimental data and is not guaranteed to be all-inclusive. TOKU-E Company strives to maintain current and comprehensive safety information but recognizes that this safety data sheet may require revision as new information becomes available. TOKU-E Company shall not be held liable for damage or injury resulting from contact, handling, or storage of this product.