

## SAFETY DATA SHEET

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## [1.PRODUCT AND COMPANY IDENTIFICATION]

PRODUCT NAME : T S 3 6 0 , T S 1 2 0 0 , T S 1 3 0 0 , T S 4 0 3 6 0 , T S 4 1 2 0 0 , T S 4 1 3 0 0  
 COMPANY NAME : Murata Machinery, Ltd.  
 ADDRESS : 136, Takeda-Mukaishiro-cho, Fushimi-ku, Kyoto, Japan 612-8686  
 CONTACT POINT : Customer Satisfaction Center  
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## [2.HAZARDS IDENTIFICATION]

## GHS CLASSIFICATION

PHYSICAL AND CHEMICAL HAZARDS : Not classified

## HEALTH HAZARDS

ACUTE TOXICITY (Oral) : Not classified  
 ACUTE TOXICITY (Dermal) : Not classified  
 ACUTE TOXICITY (Inhalation) : Not applicable(Vapours)  
 SKIN CORROSION / IRRITATION : Not classified  
 SERIOUS EYE DAMAGE / EYE IRRITATION : Not classified  
 RESPIRATORY SENSITIZATION : Classification not possible  
 SKIN SENSITIZATION : Not classified  
 GERM CELL MUTAGENICITY : Classification not possible  
 CARCINOGENICITY : Classification not possible  
 REPRODUCTIVE TOXICITY : Classification not possible  
 SPECIFIC TARGET ORGAN TOXICITY  
 - SINGLE EXPOSURE : Classification not possible  
 - REPEATED EXPOSURE : Classification not possible  
 ASPIRATION HAZARD : Classification not possible

## ENVIRONMENTAL HAZARDS

## HAZARDOUS TO THE AQUATIC ENVIRONMENT

- ACUTE HAZARD : Classification not possible  
 - LONG-TERM HAZARD : Classification not possible  
 - HAZARDOUS TO THE OZONE LAYER : Classification not possible

## GHS LABEL ELEMENTS

PICTOGRAMS OR SYMBOLS : Not applicable  
 SIGNAL WORD : Not applicable  
 HAZARD STATEMENTS : Not applicable

## PRECAUTIONARY STATEMENTS

PREVENTION : Wash thoroughly after handling.  
 If needed, use personal protective equipment as required.  
 RESPONSE : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 IF ON SKIN: Gently wash with plenty of water and soap.  
 Call a POISON CENTER or doctor if you feel unwell.  
 STORAGE : Protect from sun. Store in a well-ventilated room (under 40 C).  
 DISPOSAL :

SAFE HANDLING ADVICE : Refer to SDS.

### [3.COMPOSITION / INFORMATION ON INGREDIENTS]

SUBSTANCE OR MIXTURE : Mixture

#### INGREDIENTS AND CONCENTRATION RANGE

Ingredients	Concentration Range(%)	CAS RN
Polyester resin	Confidential	Confidential
Carbon black	1 - 5	1333-86-4
Other components	Confidential	

### [4.FIRST-AID MEASURES]

IN CASE OF INHALATION : Remove person to fresh air and keep comfortable for breathing.  
 IN CASE OF SKIN CONTACT : Gently wash with plenty of soap and water.  
 IN CASE OF EYE CONTACT : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 IN CASE OF INGESTION : Call a POISON CENTER or doctor if you feel unwell.

### [5.FIRE-FIGHTING MEASURES]

EXTINGUISHING MEDIA : Water spray, powder  
 NOT SUITABLE EXTINGUISHING MEDIA : No information available  
 SPECIFIC HAZARDS : May produce irritating or toxic gases in a fire.  
 SPECIFIC METHODS : Keep away from sources of ignition and use appropriate extinguishing media.Fight fire from upwind position if possible.  
 PROTECTION OF FIRE FIGHTERS : Use goggles in combination with dust mask, and other protections as appropriate to situation.

### [6.ACCIDENTAL RELEASE MEASURES]

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURE : Use mask, goggles and protective gloves.  
 Large spills : Remove person to safety.  
 Ensure adequate ventilation.  
 Treat from upwind position.  
 ENVIRONMENTAL PRECAUTIONS : Do not discharge into the drains, surface waters or ground water directly.  
 METHODS FOR CLEANING UP : Prevent dispersion of dust.  
 Sweep or vacuum by dust-explosion-proof type cleaner.  
 PREVENTION OF SECONDARY HAZARDS : No information available

### [7.HANDLING AND STORAGE]

#### HANDLING

TECHNICAL MEASURES : Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.  
 PRECAUTIONS : Avoid inhalation of fine dust .  
 SAFE HANDLING ADVICE : Use an adequate ventilation.  
 Wash thoroughly after handling.  
 Use personal protective equipment as required.  
 Prevent generation of dust.  
 This material may cause risk of dust explosion.

#### STORAGE

SUITABLE STORAGE CONDITIONS : Keep container tightly closed.  
 Protect from sun. Store in a well-ventilated room (under 40 C).  
 SAFE PACKAGING MATERIALS : No information available

## [8.EXPOSURE CONTROLS / PERSONAL PROTECTION]

ENGINEERING MEASURES : Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.  
Use local exhaust ventilation, in case of generation of dust.

## LIMIT VALUES

ACGIH (TLV) : TWA 3 mg/m<sup>3</sup>(l),STEL -  
Carbon black  
10 mg/m<sup>3</sup> TWA (inhalable particles, recommended); 3 mg/m<sup>3</sup> TWA (respirable particles, recommended)(Particulates (insoluble or poorly soluble) not otherwise specified (PNOS))

OSHA (PEL) : PEL 3.5mg/m<sup>3</sup>, (2012 year edition)  
Carbon black  
15 mg/m<sup>3</sup> TWA (total dust); 5 mg/m<sup>3</sup> TWA (respirable fraction)  
(Particulates not otherwise regulated)

## PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY PROTECTION : Use dust mask, as appropriate to situation.  
HAND PROTECTION : Rubber gloves  
EYE PROTECTION : Safety glasses with side shield(Safety goggles or Face shield)  
SKIN AND BODY PROTECTION : Full-body suit  
HYGIENE MEASURES : No information available

## [9.PHYSICAL AND CHEMICAL PROPERTIES]

## APPEARANCE

PHYSICAL STATE : Powder  
COLOUR : Black  
ODOUR : Odourless  
pH : No data available

SPECIFIC TEMPERATURES / TEMPERATURE RANGES  
AT WHICH CHANGES IN PHYSICAL STATE OCCUR

BOILING POINT : No information available  
MELTING POINT : No information available  
FLASH POINT : Not applicable

## FLAMMABILITY OR EXPLOSIVE PROPERTIES

FLAMMABILITY OR EXPLOSIVE LIMITS : UPPER LIMIT : No information available LOWER LIMIT : No information available  
VAPOUR PRESSURE : No information available  
VAPOUR DENSITY : No information available  
DENSITY (SPECIFIC GRAVITY) : 1.2 g/mL ( 20 °C) ( 68 °F)

## SOLUBILITY

WATER SOLUBILITY : Insoluble  
SOLVENT SOLUBILITY : Partially soluble in toluene, chloroform and tetrahydrofurane.  
PARTITION COEFFICIENT: n-  
OCTANOL / WATER (log Pow) : No information available  
AUTO-IGNITION TEMPERATURE : No information available  
DECOMPOSITION TEMPERATURE : No information available  
ODOUR THRESHOLD : No information available  
EVAPORATION RATE : No information available  
FLAMMABILITY (SOLID,GAS) : No information available  
VISCOSITY : No information available  
OTHER DATA : No information available

## [10.STABILITY AND REACTIVITY]

CHEMICAL STABILITY	: Stable in general.
POSSIBILITY OF HAZARDOUS REACTIONS	: This material may cause risk of dust explosion.
CONDITIONS TO AVOID	: No information available
INCOMPATIBLE MATERIALS	: No information available
HAZARDOUS DECOMPOSITION PRODUCTS	: No information available
OTHERS	: No information available

## [11.TOXICOLOGICAL INFORMATION]

## ACUTE TOXICITY

## Oral

INFORMATION ON PRODUCT : Rat, LD50 : > 2000 mg/kg(Data on similar product)

## Dermal

INFORMATION ON PRODUCT : No information available

INFORMATION ON INGREDIENTS : No information available

## Inhalation

INFORMATION ON PRODUCT : No information available

INFORMATION ON INGREDIENTS : No information available

## SKIN CORROSION / IRRITATION

INFORMATION ON PRODUCT : No information available

INFORMATION ON INGREDIENTS : No information available

## SERIOUS EYE DAMAGE / IRRITATION

INFORMATION ON PRODUCT : No information available

INFORMATION ON INGREDIENTS : No information available

## RESPIRATORY OR SKIN SENSITIZATION

## RESPIRATORY

INFORMATION ON PRODUCT : No information available

INFORMATION ON INGREDIENTS : No information available

## SKIN

INFORMATION ON PRODUCT : Guinea pig, Guinea Pig Maximization Test : Negative(Data on similar product)

## MUTAGENICITY (GERM CELL MUTAGENICITY)

INFORMATION ON PRODUCT : Ames test (TA98,TA100,TA1535,TA1537, WP2uvrA) : Negative

INFORMATION ON INGREDIENTS : No information available

## CARCINOGENICITY

INFORMATION ON PRODUCT : No information available

INFORMATION ON INGREDIENTS : No information available

IARC : Group 2B: Possibly carcinogenic to humans.  
Carbon black

NTP : Not listed

EU : Not listed

OSHA : Not listed

## REPRODUCTIVE TOXICITY

INFORMATION ON PRODUCT : No information available

INFORMATION ON INGREDIENTS : No information available

## SPECIFIC TARGET ORGAN TOXICITY

## - SINGLE EXPOSURE

INFORMATION ON PRODUCT : No information available

INFORMATION ON INGREDIENTS : No information available

- REPEATED EXPOSURE  
 INFORMATION ON PRODUCT : No information available  
 INFORMATION ON INGREDIENTS : No information available  
 ASPIRATION HAZARD  
 INFORMATION ON PRODUCT : No information available  
 INFORMATION ON INGREDIENTS : No information available  
 OTHER INFORMATION : No information available

## [12.ECOLOGICAL INFORMATION]

ECOTOXICITY : No information available  
 ACUTE HAZARD : No information available  
 LONG-TERM HAZARD : No information available  
 PERSISTENCE / DEGRADABILITY : No information available  
 MOBILITY IN SOIL : No information available  
 BIOACCUMULATIVE POTENTIAL : No information available  
 OTHER ADVERSE EFFECTS : No information available

## [13.DISPOSAL CONSIDERATIONS]

Review "HANDLING AND STORAGE (Section 7)".  
 Passed to a licensed waste contractor.  
 This product may cause risk of dust explosion.

Dispose of waste in accordance with local,state and federal regulations.

## [14.TRANSPORT INFORMATION]

Follow all regulations in your country or region  
 INTERNATIONAL REGULATIONS  
 UN CLASS / UN NUMBER : Not applicable (IMDG, IATA)  
 SPECIAL PRECAUTIONS FOR USER : Review "ACCIDENTAL RELEASE MEASURES (Section 6)".  
 Review "HANDLING AND STORAGE (Section 7)".  
 Ensure containers without breakage or leakage.  
 Ensure containers tightly fixed.  
 Follow all regulations in your country or region.  
 Avoid heating(keep under 40 C).

## [15.REGULATORY INFORMATION]

Follow all regulations in your country or region.

INVENTORIES	: ENCS(Japan)	Yes
	TSCA(USA)	Yes
	EINECS(EU)	No(ELINCS)
	AICS(Australia)	Yes
	DSL(Canada)	No(NDSL)
	ECL(Korea)	Yes
	PICCS(Philippines)	Yes
	IECSC(China)	Yes

Murata Machinery.LTD is not able to check up the regulatory information in regard to the substances in your country or region,therefore,we request this matter would be filled by your responsibility.

## [16.OTHER INFORMATION]

REFERENCE : -Safety data sheet for chemical products - Part 1: Content and order of sections(ISO 11014-1)  
 -International Chemical Safety Cards(ICSC) (Compiler's Guide)(1994)

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