

Safety Data Sheet

Printing date 10/11/2018

Version Number 1.0

Reviewed on 10/11/2018

1 Identification

Product identifier

Trade name: ***TYTRO® SI 660 B***

SDS ID Number: 65401

Relevant identified uses of the substance or mixture, and uses advised against:

Details of the supplier of the safety data sheet

Manufacturer/Supplier:

GCP Applied Technologies
62 Whittemore Avenue
Cambridge, MA 02140 USA

GCP Canada, Inc.
294 Clements Road W.
Ajax, Ontario L1S 3C6 Canada

2 Hazard(s) identification

Classification of the substance or mixture

Harmful if inhaled.
Causes skin irritation.
Causes serious eye irritation.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
Suspected of causing cancer.
May cause respiratory irritation.
May cause damage to organs through prolonged or repeated exposure.

Label elements: The product is classified and labeled according to the Globally Harmonized System (GHS)

Hazard pictograms



GHS07 GHS08

Danger

Hazard statements

Harmful if inhaled.
Causes skin irritation.
Causes serious eye irritation.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
Suspected of causing cancer.
May cause respiratory irritation.
May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

Avoid breathing dust/fume/gas/mist/vapors/spray
Wear protective gloves/protective clothing/eye protection/face protection.

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[In case of inadequate ventilation] wear respiratory protection.
 If on skin: Wash with plenty of water.
 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 IF exposed or concerned: Get medical advice/attention.
 Take off contaminated clothing and wash it before reuse.
 If skin irritation or rash occurs: Get medical advice/attention.
 If eye irritation persists: Get medical advice/attention.
NFPA ratings (scale 0 - 4)



Health = 2
 Fire = 1
 Reactivity = 0

HMIS-ratings (scale 0 - 4)

Health = *2
 Flammability = 1
 Reactivity = 0

Other hazards**Results of PBT and vPvB assessment**

PBT: Not applicable.
vPvB: Not applicable.

3 Composition/information on ingredients**Chemical characterization: Mixture**

Description: Mixture of the hazardous substance(s) listed below with additional nonhazardous ingredients.

Hazardous components:

9016-87-9	Diphenylmethanediisocyanate, isomers and homologues	50-<60%
101-68-8	Diphenylmethane-4,4'-di-isocyanate	30-<40%
13674-84-5	Tris(2-chlorisopropyl)-phosphate	5-<7.5%
78-40-0	Triethylphosphate	3-<5%

Additional information: Non-hazardous ingredients may be listed in Section 15; Right-To-Know disclosure.

4 First-aid measures**Description of first aid measures**

General information: Get medical advice/attention if you feel unwell.

After inhalation:

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

IF INHALED: Call a doctor if you feel unwell.

After skin contact: Wash with plenty of soap and water.

After eye contact: Rinse cautiously with water for several minutes.

After swallowing:

Rinse mouth.

Do NOT induce vomiting.

Immediately call a doctor.

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Information for doctor:**Most important symptoms and effects, both acute and delayed**

Allergic reactions

Irritating to eyes.

Indication of any immediate medical attention and special treatment needed No further relevant information available.

5 Fire-fighting measures**Extinguishing media**

Suitable extinguishing agents: CO₂, extinguishing powder or water spray. Fight larger fires with water spray.

Special hazards arising from the substance or mixture

During heating or in case of fire poisonous gases are produced.

Advice for firefighters

Protective equipment: Wear self-contained respiratory protective device.

Additional information Collect contaminated fire fighting water separately. It must not enter the sewage system.

6 Accidental release measures**Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation

Wear protective equipment. Keep unprotected persons away.

Use respiratory protective device against the effects of fumes/dust/aerosol.

Environmental precautions: Inform respective authorities in case of seepage into water course or sewage system.

Methods and material for containment and cleaning up:

Send for recovery or disposal in suitable receptacles.

Dispose contaminated material as waste according to section 13 of the SDS.

Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage**Handling:****Precautions for safe handling**

Prevent formation of aerosols.

Avoid contact with eyes.

Do not eat, drink or smoke when using this product.

Keep only in original container.

Use only outdoors or in a well-ventilated area.

Information about protection against explosions and fires: No special measures required.

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Conditions for safe storage, including any incompatibilities

Storage:

Information about storage in one common storage facility: Keep respiratorator available.

Further information about storage conditions:

Protect from frost.

Store in a dry place.

Keep cool.

Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

Additional information about design of technical systems: No further data; see item 7.

Control parameters

Components with limit values that require monitoring at the workplace:

101-68-8 Diphenylmethane-4,4'-di-isocyanate

PEL (USA)	Ceiling limit value: 0.2 mg/m ³ , 0.02 ppm
REL (USA)	Long-term value: 0.05 mg/m ³ , 0.005 ppm Ceiling limit value: 0.2* mg/m ³ , 0.02* ppm *10-min
TLV (USA)	Long-term value: 0.051 mg/m ³ , 0.005 ppm

78-40-0 Triethylphosphate

WEEL (USA)	Long-term value: 7.45 mg/m ³
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Additional information: The lists that were valid during the creation were used as basis.

Exposure controls

Appropriate engineering controls Local exhaust ventilation is recommended.

Personal protective equipment:

General protective and hygienic measures: The usual precautionary measures for handling chemicals should be followed.

Breathing equipment:

Isocyanates (contained in Part B and in mixed components) are known as respiratory sensitisers. Atmospheric levels should be maintained below the exposure guideline.

Atmospheric levels should be maintained below the exposure guideline. When atmospheric levels may exceed the exposure guideline, use an approved full-face, air-purifying respirator equipped with an organic vapor sorbent and a particle filter. Use the following CE approved air-purifying respirator: Organic vapor cartridge with a particulate prefilter, type AP2.

For spray applications use a positive-pressure air-supplying respirator (air line or self-contained breathing apparatus). For emergency response or for situations where the atmospheric level is unknown, use an approved positive-pressure self-contained breathing apparatus or positive-pressure air line with auxiliary self-contained air supply.

For hand applications, unless monitoring data confirms that respiratory protection is not necessary, use an approved half-face air purifying respirator equipped with an organic vapor sorbent filter (EU Type A, NIOSH Black, etc.) and particulate pre-filter (EU Type P2, NIOSH N95, etc.).

For emergency response, an approved positive pressure Self Contained Breathing Apparatus (SCBA) or positive pressure air line with auxiliary self-contained air supply is recommended.

Protection of hands: Protective gloves

Material of gloves

Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

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Eye protection:

Protective goggles.

Body protection:

Protective work clothing

Take off contaminated clothing.

9 Physical and chemical properties

Information on basic physical and chemical properties

General Information**Appearance:**

Form:	Liquid
Color:	According to product specification
Odor:	Characteristic
Odor threshold:	Not determined.

pH-value (~): Not determined.

Change in condition

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	>100 °C (>212 °F)
Flash point:	Not applicable.

Flammability (solid, gaseous): Not applicable.

Ignition temperature: 400 °C (752 °F)

Decomposition temperature: Not determined.

Auto igniting: Not determined.

Danger of explosion: Product does not present an explosion hazard.

Explosion limits:

Lower:	Not determined.
Upper:	Not determined.
VOC Content (max):	Not determined.

Vapor pressure:	Not determined.
Density: (~)	Not determined.
Relative density	Not determined.
Vapor density	Not determined.
Evaporation rate	Not determined.

Solubility in / Miscibility with

Water: Not miscible or difficult to mix.

Partition coefficient (n-octanol/water): Not determined.

Viscosity:

Dynamic:	Not determined.
Kinematic:	Not determined.
Molecular weight	Not applicable.

Other information

No further relevant information available.

10 Stability and reactivity

Reactivity Stable under normal conditions.

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Chemical stability**Thermal decomposition:** No decomposition if used according to specifications.**Possibility of hazardous reactions** No dangerous reactions known.**Conditions to avoid** No further relevant information available.**Incompatible materials:** No further relevant information available.**Hazardous decomposition products:** Carbon monoxide and carbon dioxide**11 Toxicological information****Delayed and immediate effects and chronic effects from short or long term exposure**

May cause damage to organs through prolonged or repeated exposure.

Information on toxicological effects**Acute toxicity:****LD/LC50 values relevant for classification:****9016-87-9 Diphenylmethanediisocyanate, isomers and homologues**

Oral	LD50	10,000 mg/kg (rat)
Dermal	LD50	9,000 mg/kg (rat)
Inhalation	LC50, 4h	490 mg/m ³ (rat)

101-68-8 Diphenylmethane-4,4'-di-isocyanate

Oral	LD50	>10,000 mg/kg (rat)
Dermal	LD50	>9,400 mg/kg (rabbit)
Inhalation	LC50, 4h	0.49 mg/l (rat)
	LC50	0.00224 mg/m ³ (rat)

13674-84-5 Tris(2-chlorisopropyl)-phosphate

Dermal	LD50	3,600 mg/kg (rat)
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Primary irritant effect:**on the skin:** Causes skin irritation.**on the eye:** Causes serious eye irritation.**inhalation:**

Harmful if inhaled.

May cause respiratory irritation.

Ingestion: May cause damage to organs through prolonged or repeated exposure.**Sensitization:**

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

May cause an allergic skin reaction.

Additional toxicological information: Suspected of causing cancer.**Carcinogenic categories****IARC (International Agency for Research on Cancer) Human Carcinogenicity:****Group 1- Positive, Group 2A- Probable, Group 2B- Possible, Group 3- Not Classifiable**

9016-87-9	Diphenylmethanediisocyanate, isomers and homologues	3
101-68-8	Diphenylmethane-4,4'-di-isocyanate	3

NTP (National Toxicology Program)**K–Known to be carcinogenic, R–May reasonably be anticipated to be carcinogenic**

None of the ingredients are listed.

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OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients are listed.

12 Ecological information**Toxicity****Aquatic toxicity:** No further relevant information available.**Persistence and degradability** No further relevant information available.**Behavior in environmental systems:****Bioaccumulative potential** No further relevant information available.**Mobility in soil** No further relevant information available.**Additional ecological information:****General notes:** Not known to be hazardous to water.**Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.**Other adverse effects** No further relevant information available.**13 Disposal considerations****Disposal methods:****Recommendation:**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Uncleaned packagings:**Recommendation:** Dispose of contents/container in accordance with local/regional/national/international regulations.**14 Transport information****UN-Number**

DOT, IMDG, IATA Not applicable.

UN proper shipping name

DOT, IMDG, IATA Not applicable.

Transport hazard class(es)DOT, IMDG, IATA
Class Not applicable.**Packing group**

DOT, IMDG, IATA Not applicable.

Environmental hazards: Not applicable.**Special precautions for user** Not applicable.

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Transport/Additional information:

DOT

Remarks: Not Regulated.

15 Regulatory information**SARA (Superfund Amendments and Reauthorization Act)****Section 302/304 (extremely hazardous substances):**

None of the ingredients is listed.

Section 313 Reportable Ingredients (Chemicals present below reporting threshold are exempt):

9016-87-9	Diphenylmethanediisocyanate, isomers and homologues	56.9%
101-68-8	Diphenylmethane-4,4'-di-isocyanate	30.6%

SARA Section 312/Tier I & II Hazard Categories:

Health Hazard - Carcinogenicity
 Health Hazard - Acute toxicity (any route of exposure)
 Health Hazard - Skin Corrosion or Irritation
 Health Hazard - Respiratory or Skin Sensitization
 Health Hazard - Serious eye damage or eye irritation
 Health Hazard - Specific target organ toxicity (single or repeated exposure)

North America Chemical Inventory Status**TSCA (Toxic Substances Control Act - United States):**

Inventory listing could not be confirmed for one or more substances.

CEPA (Canadian DSL):

Inventory listing could not be confirmed for one or more substances.

Right to Know Ingredient Disclosure:

Proprietary : Other non hazardous ingredients (GETH)

California Proposition 65: (Substances <0.1% unless noted in Section 3)**Chemicals known to cause cancer:**

None of the ingredients is listed.

Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients are listed.

Chemicals known to cause developmental toxicity:

None of the ingredients are listed.

Carcinogenicity Categories**TLV-ACGIH (THE American Conference of Governmental Industrial Hygienists)****Human Carcinogen - A1 Confirmed, A2 Suspected, A3 Unknown Relevance, A4 Not Classifiable**

None of the ingredients are listed.

NIOSH-Cancer (National Institute for Occupational Safety and Health)

None of the ingredients are listed.

Volatile Organic Compounds (VOC) reported per the Emission Standards.

If no g/L value is provided this product is not subject to above standard.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

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Department issuing SDS:

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SL1 4EQ

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