

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

Product form	: Mixture
Trade name	: THPC Urea Precondensate
CAS No	: 27104-30-9
Product code	: 652
Formula	: (C4H12O4P.CH4N2O.Cl)x

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

Use of the substance/mixture	: Industrial use, fire retardant
Restriction on use	: Not determined

#### 1.3. Details of the supplier of the safety data sheet

Special Materials Company  
70 West 40th Street, 2nd Floor  
New York, NY 10018

#### 1.4. Emergency telephone number

Emergency number : CHEMTREC - (800) 424-9300 | Outside the US: (703) 527-3887

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification (GHS-US)

Acute Tox. 3 (Oral)	H301
Acute Tox. 3 (Dermal)	H311
Eye Dam. 1	H318
Skin Sens. 1	H317
Carc. 1B	H350

Full text of H-phrases: see section 16

#### 2.2. Label elements

##### GHS-US labeling

Hazard pictograms (GHS-US) :



GHS05

GHS06

GHS07

GHS08

Signal word (GHS-US) :

Danger

Hazard statements (GHS-US) :

H301+H311 - Toxic if swallowed or in contact with skin  
H317 - May cause an allergic skin reaction  
H318 - Causes serious eye damage  
H350 - May cause cancer (Inhalation)

Precautionary statements (GHS-US) :

P201 - Obtain special instructions before use  
P202 - Do not handle until all safety precautions have been read and understood  
P261 - Avoid breathing vapors  
P264 - Wash hands, forearms and face thoroughly after handling  
P270 - Do not eat, drink or smoke when using this product  
P272 - Contaminated work clothing must not be allowed out of the workplace  
P280 - Wear eye protection, face protection, protective gloves, protective clothing  
P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician  
P302+P352 - If on skin: Wash with plenty of water  
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P308+P313 - If exposed or concerned: Get medical advice/attention  
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention  
P361 - Take off immediately all contaminated clothing  
P362+P364 - Take off contaminated clothing and wash it before reuse

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P363 - Wash contaminated clothing before reuse  
P405 - Store locked up  
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

### 2.3. Other hazards

No additional information available

### 2.4. Unknown acute toxicity (GHS-US)

Not applicable

## SECTION 3: Composition/information on ingredients

### 3.1. Substance

Not applicable

### 3.2. Mixture

Name	Product identifier	%	Classification (GHS-US)
THPC- Urea Precondensate	(CAS No) 27104-30-9	60.6 - 63.6	Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Eye Dam. 1, H318 Skin Sens. 1, H317
Formaldehyde	(CAS No) 50-00-0	0.1 - 0.5	Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation:dust,mist), H331 Skin Corr. 1B, H314 Skin Sens. 1, H317 Muta. 2, H341 Carc. 1A, H350

Full text of H-phrases: see section 16

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

- First-aid measures general : IF exposed or concerned: Get medical advice/attention.
- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a poison center or a doctor.
- First-aid measures after skin contact : Wash skin with plenty of water. Remove/Take off immediately all contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.
- First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
- First-aid measures after ingestion : Rinse mouth. Call a physician immediately.

### 4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/injuries after inhalation : May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- Symptoms/injuries after skin contact : May cause an allergic skin reaction.
- Symptoms/injuries after eye contact : Serious damage to eyes.

### 4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

- Suitable extinguishing media : dry chemical powder, alcohol-resistant foam, carbon dioxide (CO<sub>2</sub>), water spray, sand, earth.
- Unsuitable extinguishing media : None to our knowledge. If there is a fire close by, use suitable extinguishing agents.

### 5.2. Special hazards arising from the substance or mixture

- Fire hazard : Potentially combustible ingredients may ignite, causing fire to spread, increasing risk of burns or injuries. Exercise caution when fighting any chemical fire.
- Explosion hazard : On heating, there is a risk of bursting due to internal pressure build-up. Cool down the containers exposed to heat with a water spray.
- Reactivity : On burning: release of toxic and corrosive gases/vapors hydrogen chloride carbon monoxide - carbon dioxide. Ammonia. Nitrogen oxides. Phosphorus oxides.

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### 5.3. Advice for firefighters

- Firefighting instructions : Eliminate all ignition sources if safe to do so. Fight fire with normal precautions from a reasonable distance. Exercise caution when fighting any chemical fire.
- Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### 6.1.1. For non-emergency personnel

- Protective equipment : Eye protection, including both chemical splash goggles and face shield, must be worn when possibility exists for eye contact due to spraying liquid or airborne particles.
- Emergency procedures : Evacuate unnecessary personnel. No flames, no sparks. Eliminate all sources of ignition. Keep upwind.

#### 6.1.2. For emergency responders

- Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

### 6.2. Environmental precautions

Avoid release to the environment. Notify authorities if product enters sewers or public waters.

### 6.3. Methods and material for containment and cleaning up

- For containment : Collect all waste in suitable and labeled containers and dispose according to local legislation.
- Methods for cleaning up : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.
- Other information : Dispose of materials or solid residues at an authorized site.

### 6.4. Reference to other sections

For further information refer to section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

- Precautions for safe handling : Ensure good ventilation of the work station. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Take all necessary technical measures to avoid or minimize the release of the product on the workplace. Limit quantities of product at the minimum necessary for handling and limit the number of exposed workers. Provide local exhaust or general room ventilation. Wear personal protective equipment. Floors, walls and other surfaces in the hazard area must be cleaned regularly. Do not get in eyes, on skin, or on clothing. Avoid breathing mist, vapors.
- Hygiene measures : Separate working clothes from town clothes. Launder separately. Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

### 7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Store locked up. Store in a well-ventilated place. Keep cool.
- Incompatible materials : Strong acids. Strong oxidizers.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

Formaldehyde (50-00-0)	
ACGIH	1 ppm (TWA)
OSHA	0.75 ppm (PEL)
THPC- Urea Precondensate (27104-30-9)	
ACGIH	Not applicable
OSHA	Not applicable

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### 8.2. Exposure controls

Appropriate engineering controls	: Ensure good ventilation of the work station. Carry out operations in the open/under local exhaust/ventilation or with respiratory protection.
Hand protection	: protective gloves.
Eye protection	: Safety glasses.
Skin and body protection	: Wear suitable protective clothing.
Respiratory protection	: Wear respiratory protection.
Environmental exposure controls	: Avoid release to the environment.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Color	: straw yellow
Odor	: No data available
Odor threshold	: No data available
pH	: 3 - 5
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: No data available
Freezing point	: ≈ 0 °C
Boiling point	: 239 °F
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: No data available
Relative vapor density at 20 °C	: > 1
Relative density	: No data available
Specific gravity / density	: 1.31
Solubility	: Soluble in water.
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Explosive limits	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

On burning: release of toxic and corrosive gases/vapors hydrogen chloride carbon monoxide - carbon dioxide. Ammonia. Nitrogen oxides. Phosphorus oxides.

### 10.2. Chemical stability

Stable at ambient temperature and under normal conditions of use.

### 10.3. Possibility of hazardous reactions

Reacts vigorously with strong oxidizers and acids.

### 10.4. Conditions to avoid

Extremely high or low temperatures.

### 10.5. Incompatible materials

Strong acids. Strong oxidizers.

### 10.6. Hazardous decomposition products

Thermal decomposition generates : Toxic fumes. Phosphorous oxide. Carbon oxides (CO, CO<sub>2</sub>). Ammonia. Nitrogen oxides.

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### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Acute toxicity : Oral: Toxic if swallowed. Dermal: Toxic in contact with skin.

Formaldehyde (50-00-0)	
ATE US (oral)	100.000 mg/kg body weight
ATE US (dermal)	300.000 mg/kg body weight
ATE US (dust, mist)	0.500 mg/l/4h

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LD50 oral rat	> 962 mg/kg

Skin corrosion/irritation : Not classified  
pH: 3 - 5

Serious eye damage/irritation : Causes serious eye damage.  
pH: 3 - 5

Respiratory or skin sensitization : May cause an allergic skin reaction.

Germ cell mutagenicity : Not classified  
(Lack of data)

Carcinogenicity : Suspected of causing cancer (Inhalation).

Formaldehyde (50-00-0)	
IARC group	1 - Carcinogenic to humans
National Toxicology Program (NTP) Status	2 - Known Human Carcinogens

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Not classified  
(Lack of data)

Specific target organ toxicity (repeated exposure) : Not classified  
(Lack of data)

Aspiration hazard : Not classified

Symptoms/injuries after inhalation : May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Symptoms/injuries after skin contact : May cause an allergic skin reaction.

Symptoms/injuries after eye contact : Serious damage to eyes.

### SECTION 12: Ecological information

#### 12.1. Toxicity

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No additional information available

#### 12.2. Persistence and degradability

No additional information available

#### 12.3. Bioaccumulative potential

No additional information available

#### 12.4. Mobility in soil

No additional information available

#### 12.5. Other adverse effects

No additional information available

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### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.

### SECTION 14: Transport information

In accordance with DOT

Transport document description : Toxic, liquids, organic, n.o.s. [Tetrakis(hydroxymethyl)phosphonium chloride, urea polymer, water solution], 6.1, III

UN-No.(DOT) : UN2810

Proper Shipping Name (DOT) : Toxic, liquids, organic, n.o.s.  
[Tetrakis(hydroxymethyl)phosphonium chloride, urea polymer, water solution]

Transport hazard class(es) (DOT) : 6.1 - Class 6.1 - Poisonous materials 49 CFR 173.132

Hazard labels (DOT) : 6.1 - Poison hazard



DOT Symbols : G - Identifies PSN requiring a technical name

Packing group (DOT) : III - Minor Danger

DOT Special Provisions (49 CFR 172.102) : B2 - MC 300, MC 301, MC 302, MC 303, MC 305, and MC 306 and DOT 406 cargo tanks are not authorized.  
IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized.  
T11 - 6 178.274(d)(2) Normal..... 178.275(d)(3)  
TP2 - a. The maximum degree of filling must not exceed the degree of filling determined by the following: (image) Where: tr is the maximum mean bulk temperature during transport, tf is the temperature in degrees celsius of the liquid during filling, and a is the mean coefficient of cubical expansion of the liquid between the mean temperature of the liquid during filling (tf) and the maximum mean bulk temperature during transportation (tr) both in degrees celsius. b. For liquids transported under ambient conditions may be calculated using the formula: (image) Where: d15 and d50 are the densities (in units of mass per unit volume) of the liquid at 15 C (59 F) and 50 C (122 F), respectively.  
TP27 - A portable tank having a minimum test pressure of 4 bar (400 kPa) may be used provided the calculated test pressure is 4 bar or less based on the MAWP of the hazardous material, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the MAWP.

DOT Packaging Exceptions (49 CFR 173.xxx) : 154

DOT Packaging Non Bulk (49 CFR 173.xxx) : 202

DOT Packaging Bulk (49 CFR 173.xxx) : 242

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 1 L

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 30 L

DOT Vessel Stowage Location : B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.

DOT Vessel Stowage Other : 40 - Stow "clear of living quarters"

#### Additional information

Other information : No supplementary information available.

#### ADR

Transport document description : UN 2810, 6.1, III

Packing group (ADR) : III

Class (ADR) : 6.1 - Toxic substances

Hazard identification number (Kemler No.) : 60

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Hazard labels (ADR) : 6.1 - Toxic substances



### Transport by sea

UN-No. (IMDG) : 2810  
Proper Shipping Name (IMDG) : TOXIC LIQUID, ORGANIC, N.O.S.  
Class (IMDG) : 6.1 - Toxic substances  
Packing group (IMDG) : III - substances presenting low danger

### Air transport

UN-No.(IATA) : 2810  
Proper Shipping Name (IATA) : Toxic liquid, organic, n.o.s.  
Class (IATA) : 6.1 - Toxic Substances  
Packing group (IATA) : III - Minor Danger

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

THPC Urea Precondensate (27104-30-9)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
SARA Section 311/312 Hazard Classes	Immediate health hazard. Delayed (chronic) health hazard
Formaldehyde (50-00-0)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Listed on United States SARA Section 313	
RQ (Reportable quantity, section 304 of EPA's List of Lists)	100 lb
SARA Section 302 Threshold Planning Quantity (TPQ)	500 lb
SARA Section 311/312 Hazard Classes	Immediate health hazard. Delayed (chronic) health hazard

### 15.2. International regulations

#### CANADA

No additional information available

#### EU-Regulations

No additional information available

#### Classification according to Regulation (EC) No. 1272/2008 [CLP]

#### Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Not classified

### 15.2.2. National regulations

Formaldehyde (50-00-0)
Listed on IARC (International Agency for Research on Cancer)
Listed as carcinogen on NTP (National Toxicology Program)

### 15.3. US State regulations

Formaldehyde (50-00-0)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significance risk level (NSRL)
Yes	No	No	No	

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### Formaldehyde (50-00-0)

U.S. - Massachusetts - Right To Know List  
U.S. - New Jersey - Right to Know Hazardous Substance List  
U.S. - Pennsylvania - RTK (Right to Know) List

## SECTION 16: Other information

Full text of H-phrases:

Acute Tox. 3 (Dermal)	Acute toxicity (dermal) Category 3
Acute Tox. 3 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 3
Acute Tox. 3 (Oral)	Acute toxicity (oral) Category 3
Carc. 1A	Carcinogenicity Category 1A
Carc. 2	Carcinogenicity Category 2
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Muta. 2	Germ cell mutagenicity Category 2
Skin Corr. 1B	Skin corrosion/irritation Category 1B
Skin Sens. 1	Skin sensitization Category 1
H301	Toxic if swallowed
H311	Toxic in contact with skin
H314	Causes severe skin burns and eye damage
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H331	Toxic if inhaled
H341	Suspected of causing genetic defects
H350	May cause cancer
H351	Suspected of causing cancer

SDS US (GHS HazCom 2012)

*The information contained herein is believed to be accurate but is not warranted to be so. Data and calculations are based on information furnished by the manufacturer of the product and manufacturers of the components of the product. Users are advised to confirm in advance of need that information is current, applicable and suited to the circumstances of use. Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Furthermore, vendor assumes no responsibility for injury caused by abnormal use of this material even if reasonable safety procedures are followed. Any questions regarding this product should be directed to the manufacturer of the product as described in Section 1.*