

platinum tetrammine acetate solution, aqueous

## Section 1. Identification

Code: C1090

GHS product identifier: platinum tetrammine acetate solution, aqueous

Chemical name: Tetrammine Platinum (II) Acetate Solution

Other means of identification: Pt TPA Solution

Product type: Liquid.

Relevant identified uses of the substance or mixture and uses advised against: Not applicable.

Supplier's details: Johnson Matthey, 2001 Nolte Drive, West Deptford, NJ 08066 USA

Emergency telephone number (with hours of operation): For Hazardous Materials [or Dangerous Goods] Incident, Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night (collect calls accepted).  
Within USA and Canada: 1-800-424-9300. Outside USA and Canada: +1 703-527-3887

## Section 2. Hazards identification

OSHA/HCS status This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture SKIN IRRITATION - Category 2  
EYE IRRITATION - Category 2A

### GHS label elements

Hazard pictograms



Signal word **Warning**

Hazard statements Causes serious eye irritation.  
Causes skin irritation.

### Precautionary statements

Prevention Wear protective gloves. Wear eye or face protection. Wash hands thoroughly after handling.

Response IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical 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 attention.

Storage Not applicable.

Disposal Not applicable.

Hazards not otherwise classified None known.

## Section 3. Composition/information on ingredients

Substance/mixture Mixture

Chemical name Tetrammine Platinum (II) Acetate Solution

Other means of identification Pt TPA Solution

### CAS number/other identifiers

CAS number Not applicable.

Product code C1090

Ingredient name	%	CAS number
tetraammineplatinum (II) diacetate	19 - 27	127733-97-5
acetic acid	0 - 2	64-19-7

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

## Section 3. Composition/information on ingredients

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

## Section 4. First aid measures

### Description of necessary first aid measures

Eye contact	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Skin contact	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.
Ingestion	Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

Eye contact	Causes serious eye irritation.
Inhalation	No known significant effects or critical hazards.
Skin contact	Causes skin irritation.
Ingestion	No known significant effects or critical hazards.

#### Over-exposure signs/symptoms

Eye contact	Adverse symptoms may include the following: pain or irritation watering redness
Inhalation	No specific data.
Skin contact	Adverse symptoms may include the following: irritation redness
Ingestion	No specific data.

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

Notes to physician	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Specific treatments	No specific treatment.
Protection of first-aiders	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

**Suitable extinguishing media** Use an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing media** None known.

**Specific hazards arising from the chemical** In a fire or if heated, a pressure increase will occur and the container may burst.

**Hazardous thermal decomposition products** Decomposition products may include the following materials:  
 carbon dioxide  
 carbon monoxide  
 nitrogen oxides  
 metal oxide/oxides

**Special protective actions for fire-fighters** Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

**Special protective equipment for fire-fighters** Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

**Remark** Not available.

**Remark** Not available.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel** No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**For emergency responders** If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**Environmental precautions** Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### Methods and materials for containment and cleaning up

**Small spill** Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

**Large spill** Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## Section 7. Handling and storage

### Precautions for safe handling

**Protective measures** Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

**Advice on general occupational hygiene** Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

**Conditions for safe storage, including any incompatibilities** Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
tetraammineplatinum (II) diacetate acetic acid	None. <b>ACGIH TLV (United States, 3/2015).</b> TWA: 10 ppm 8 hours. TWA: 25 mg/m <sup>3</sup> 8 hours. STEL: 15 ppm 15 minutes. STEL: 37 mg/m <sup>3</sup> 15 minutes. <b>OSHA PEL 1989 (United States, 3/1989).</b> TWA: 10 ppm 8 hours. TWA: 25 mg/m <sup>3</sup> 8 hours. <b>NIOSH REL (United States, 10/2013).</b> TWA: 10 ppm 10 hours. TWA: 25 mg/m <sup>3</sup> 10 hours. STEL: 15 ppm 15 minutes. STEL: 37 mg/m <sup>3</sup> 15 minutes. <b>OSHA PEL (United States, 2/2013).</b> TWA: 10 ppm 8 hours. TWA: 25 mg/m <sup>3</sup> 8 hours.

#### Appropriate engineering controls

Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

#### Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

#### Individual protection measures

##### Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

##### Eye/face protection

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

##### Skin protection

###### Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

###### Body protection

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

###### Other skin protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

##### Respiratory protection

Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

## Section 9. Physical and chemical properties

Physical state	Liquid.	Melting point	Not available.
Color	Colorless.	Boiling point	Not available.
Odor	Odorless.	Flash point	Not available.
Odor threshold	Not available.		
Vapor pressure	Not available.		
Vapor density	Not available.	Flammability (solid, gas)	Not available.
Evaporation rate	Not available.	Lower and upper explosive (flammable) limits	Not available.
Relative density	Not available.	Auto-ignition temperature	Not available.
pH	6	Decomposition temperature	Not available.
Partition coefficient: n-octanol/water	Not available.	SADT	Not available.
Solubility in water	Not available.	Viscosity	Not available.
Solubility	Not available.		

## Section 10. Stability and reactivity

Reactivity	No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	The product is stable.
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	No specific data.
Incompatible materials	No specific data.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
acetic acid	LC50 Inhalation Vapor	Rat	11000 mg/m <sup>3</sup>	4 hours
	LD50 Dermal	Rabbit	1060 mg/kg	-
	LD50 Oral	Rat	3310 mg/kg	-

Conclusion/Summary Not available.

#### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
acetic acid	Eyes - Mild irritant	Rabbit	-	0.5 minutes 5 milligrams	-
	Skin - Mild irritant	Human	-	24 hours 50 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 50 milligrams	-
	Skin - Severe irritant	Rabbit	-	525 milligrams	-

Skin Not available.

Eyes Not available.

Respiratory Not available.

#### Sensitization

Not available.

Skin Not available.

Respiratory Not available.

#### Mutagenicity

## Section 11. Toxicological information

Product/ingredient name	Test	Experiment	Result
acetic acid	471 Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria Metabolic activation: with	Negative
	473 <i>In vitro</i> Mammalian Chromosomal Aberration Test	Experiment: In vitro Subject: Mammalian-Animal Cell: Germ Metabolic activation: with and without	Negative
	EU B.12	Experiment: In vivo Subject: Mammalian-Animal	Negative

Conclusion/Summary Not available.

### Carcinogenicity

Product/ingredient name	Result	Species	Dose	Exposure
acetic acid	Negative - Oral - TCLo	Human - Male, Female	-	-

Conclusion/Summary Not available.

### Reproductive toxicity

Not available.

Conclusion/Summary Not available.

### Teratogenicity

Product/ingredient name	Result	Species	Dose	Exposure
acetic acid	Negative - Oral	Rat	1600 mg/kg	During Pregnancy

Conclusion/Summary Not available.

### Specific target organ toxicity (single exposure)

Not available.

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

Information on the likely routes of exposure Not available.

### Potential acute health effects

Eye contact	Causes serious eye irritation.
Inhalation	No known significant effects or critical hazards.
Skin contact	Causes skin irritation.
Ingestion	No known significant effects or critical hazards.

### Symptoms related to the physical, chemical and toxicological characteristics

Eye contact	Adverse symptoms may include the following: pain or irritation watering redness
Inhalation	No specific data.
Skin contact	Adverse symptoms may include the following: irritation redness
Ingestion	No specific data.

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure

Potential immediate effects Not available.

Potential delayed effects Not available.

## Section 11. Toxicological information

### Long term exposure

Potential immediate effects Not available.

Potential delayed effects Not available.

### Potential chronic health effects

Product/ingredient name	Result	Species	Dose	Exposure
acetic acid	Sub-chronic NOAEL Oral	Rat - Male	290 mg/kg	-

Conclusion/Summary Not available.

General No known significant effects or critical hazards.

Carcinogenicity No known significant effects or critical hazards.

Mutagenicity No known significant effects or critical hazards.

Teratogenicity No known significant effects or critical hazards.

Developmental effects No known significant effects or critical hazards.

Fertility effects No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

Route	ATE value
Oral	331000 mg/kg
Dermal	106000 mg/kg
Inhalation (vapors)	1100 mg/l

Interactive effects Not available.

Other information Not available.

## Section 12. Ecological information

### Toxicity

Product/ingredient name	Result	Species	Exposure
acetic acid	Acute EC50 73400 µg/l Fresh water	Algae - Navicula seminulum	96 hours
	Acute EC50 65000 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 50.1 µl/L Marine water	Crustaceans - Artemia sp.	48 hours
	Acute LC50 75000 µg/l Fresh water	Fish - Lepomis macrochirus	96 hours

Conclusion/Summary Not available.

### Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
acetic acid	-	96 % - Readily - 20 days	-	-

Conclusion/Summary Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
acetic acid	-	50%; < 28 day(s)	Readily

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
acetic acid	-0.17	3.16	low

### Mobility in soil

Soil/water partition coefficient (K<sub>oc</sub>) Not available.

Mobility Not available.

Other adverse effects No known significant effects or critical hazards.

## Section 13. Disposal considerations

<b>Disposal methods</b>	The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.
<b>Waste stream</b>	Not available.
<b>RCRA classification</b>	Not available.

## Section 14. Transport information

	DOT Classification	IMDG	IATA
<b>UN number</b>	Not regulated.	Not regulated.	Not regulated.
<b>UN proper shipping name</b>	-	-	-
<b>Transport hazard class(es) and Packing group</b>	--	--	--
<b>Environmental hazards</b>	No.	No.	No.
<b>Additional information</b>	-	-	-

**Special precautions for user** **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**Transport in bulk according to Annex II of MARPOL and the IBC Code** Not available.

<b>Proper shipping name</b>	Not available.
<b>Ship type</b>	Not available.
<b>Pollution category</b>	Not available.

## Section 15. Regulatory information

**U.S. Federal regulations** **TSCA 8(a) CDR Exempt/Partial exemption:** Not determined  
**United States inventory (TSCA 8b):** All components are listed or exempted.  
**Clean Water Act (CWA) 311:** acetic acid

<b>Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)</b>	Not listed
<b>Clean Air Act Section 602 Class I Substances</b>	Not listed
<b>Clean Air Act Section 602 Class II Substances</b>	Not listed
<b>DEA List I Chemicals (Precursor Chemicals)</b>	Not listed
<b>DEA List II Chemicals (Essential Chemicals)</b>	Not listed

### SARA 302/304

**Composition/information on ingredients**

No products were found.

**SARA 304 RQ** Not applicable.

### SARA 311/312

**Classification** Immediate (acute) health hazard



## Section 15. Regulatory information

### Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
tetraammineplatinum (II) diacetate	≥10 - ≤25	No.	No.	No.	Yes.	No.
acetic acid	≤3	Yes.	No.	No.	Yes.	No.

### State regulations

Massachusetts	The following components are listed: ACETIC ACID; ACETIC ACID GLACIAL
New York	The following components are listed: Acetic acid
New Jersey	The following components are listed: ACETIC ACID; ETHANOIC ACID
Pennsylvania	The following components are listed: ACETIC ACID; ACETIC ACID, WATER SOLUTIONS
	Not available.

### International regulations

#### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

#### Montreal Protocol (Annexes A, B, C, E)

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

Not listed.

#### Rotterdam Convention on Prior Inform Consent (PIC)

Not listed.

#### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

### International lists

#### National inventory

Australia	Not determined.
Canada	Not determined.
China	Not determined.
Europe	At least one component is not listed in EINECS but all such components are listed in ELINCS. Please contact your supplier for information on the inventory status of this material.
Japan	<b>Japan inventory (ENCS):</b> Not determined. <b>Japan inventory (ISHL):</b> Not determined.
Malaysia	Not determined.
New Zealand	Not determined.
Philippines	Not determined.
Republic of Korea	Not determined.
Taiwan	Not determined.
Turkey	Not determined.

## Section 16. Other information

### Procedure used to derive the classification

Classification	Justification
SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A	Calculation method Calculation method

### History


Date of printing 10/01/2017

## Section 16. Other information

Date of issue/Date of revision	10/01/2017
Date of previous issue	29/11/2016
Version	3
Prepared by	Not available.
Key to abbreviations	ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association IBC = Intermediate Bulk Container IMDG = International Maritime Dangerous Goods LogPow = logarithm of the octanol/water partition coefficient MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) UN = United Nations
References	Not available.

 Indicates information that has changed from previously issued version.

US Label (29 CFR 1910.1200(f)(1))

<p><b>platinum tetrammine acetate solution, aqueous</b></p> <p>CAS: Not applicable. Code: C1090</p> <p><b>Warning</b></p> <p>Causes serious eye irritation. Causes skin irritation.</p> <p>Wear protective gloves. Wear eye or face protection. Wash hands thoroughly after handling. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical 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 attention. Read SDS before using this product. Do not handle until all safety precautions have been read and understood.</p> <p><small>Johnson Matthey 2001 Nolte Drive, West Deptford, NJ 08066 USA non-emergencies: +1 856 384 7050; emergencies +1 800 424 9300</small></p>	
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### Notice to reader

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