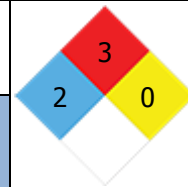




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1 Identification of the substance or mixture and of the supplier

1.1. Product name or GHS product identifier

1.1.1. Common name :	Jet A1
1.1.2. Chemical formula :	
1.1.3. Commercial name :	Jet A1, Kerosene
1.1.4. CAS number :	8008-20-6
1.1.5. Molecular weight :	N/A g/mol

1.2. Other product identifier :

1.2.1. UN Number :	1223
1.2.2. Annex I, EU directive 67/948/EC :	N/A
1.2.3. EC number :	N/A

1.3. Recommendation for use and other prohibitions for use

N/A

1.4. Manufacturer or Supplier Details

1.4.1. Manufacturer or Supplier	1.4.2. Address
PTT Global Chemical Public Company Limited	8, I-8 Road, Map Ta Phut Industrial Estate, Map Ta Phut, Mueang Rayong, Rayong 21150 Thailand. Telephone : +66(0) 3897-1000
1.4.3. Telephone number :	Telephone : +66(0) 3897-1000
1.5. Emergency telephone number :	038-971191

1.6. Other information

1.6.1. Hazardous substance Yes No

1.6.2. Hazardous category Hazard type 3

1.6.3. Max quantity storage

1.6.4. Uses

Used in the petrochemical industry.

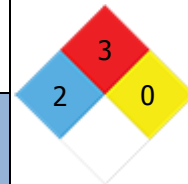
1.6.5. Other

No data available



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Hazards identification

2.1. GHS classification of the substance/mixture and any national or regional information

2.1.1. Hazard classification according to the GHS

Flammable liquids - Category 3
Skin Corrosion/Irritation - Hazard category 2 Irritant
Specific Target Organ Toxicity (Single Exposure) - Category 1
Aspiration Hazard - Hazard category 1
Long Term Hazards To The Aquatic Environments - Hazard category 2

2.2. GHS label elements, including precautionary statements

2.2.1. Chemical name :

2.2.2. Product name or GHS product identifier :

Jet A1

2.2.3. Symbol and Hazard pictograms



2.2.4. Signal words :

Danger

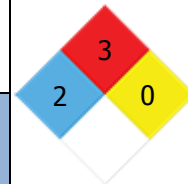
2.2.5. Hazard statement

Flammable liquid and vapour
Causes skin irritation
Causes damage to organs (or state all organs affected, if known) (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)
May be fatal if swallowed and enters airways
Toxic to aquatic life with long lasting effects



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2

Hazards identification (cont.)

2.2.6. Precautionary information

- Keep container tightly closed
- Keep away from heat, [sparks] [and flame] [- No Smoking]
- Keep container/package tightly closed and in a well-ventilated place
- Use CO2, dry chemical, or foam

2.2.7. Supplemental information

N/A

2.3. Other hazards which do not result in classification or are not covered by the GHS

N/A

2.3.1. Potential Chronic Health Effects

2.3.1.1. Carcinogen effects

- Maybe-Carcinogen Carcinogen Non-Carcinogen N/A

N/A

2.3.1.2. Mutagenic effects

- Mutagenic Non-Mutagenic N/A

N/A

2.3.1.3. Other information

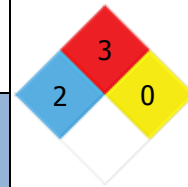
N/A

2.4. Environmental Hazards



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4

First-aid measures

4.1. First-aid

4.1.1. Inhalation

If inhaled, remove to fresh air. Get medical attention

4.1.2. Skin contact

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Drench contaminated clothing with water before removing. This is necessary to avoid the risk of sparks from static electricity that could ignite contaminated clothing. Contaminated clothing is a fire hazard. Contaminated leather.

4.1.3. Eyes contact

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Check for and remove any contact lenses. Get medical attention.

4.1.4. Ingestion

Do not induce vomiting. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Aspiration hazard if swallowed. Can enter lungs and cause damage. Get medical attention immediately.

4.2. Most important symptoms/effects

4.2.1. Acute Effects

No data available

4.2.2. Delayed effects

No data available

4.3. Indication of immediate medical attention

No data available

4.4. Special treatment needed, if necessary.

No data available

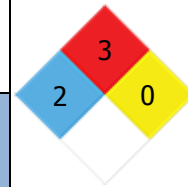
4.5. Other

N/A



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5

Firefighting measures

5.1. Unsuitable extinguishing media :	Do not use water jet.
5.2. Suitable extinguishing media :	In case of fire, use water fog, foam, dry chemical or carbon dioxide extinguisher or spray.
5.3. Specific hazards arising from the chemical. Flammable liquid and vapour. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Vapours can form explosive	
5.4. Special protective equipment and precautions 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. Clothing for firefighters	
5.5. Precautions for fire fighters. No data available	
5.6. Other. No data available	

6

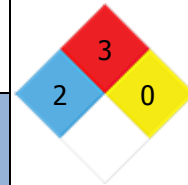
Accidental release measures

6.1. Personal precautions Immediately contact emergency personnel. No action shall be taken involving any personal risk or without suitable training. Eliminate all ignition sources. Evacuate surrounding areas. Keep	
6.2. Protective equipment 	
6.3. Emergency procedures	
6.3.1. Large Spill No data available	6.3.2. Small Spill No data available
6.4. Environmental precautions Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers,	
6.5. Methods and materials for containment and cleaning up. Eliminate all ignition sources. Stop leak if without risk. Move containers from spill area. Absorb with an inert material and place in an appropriate waste disposal container. Use sparkproof	



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7

Handling and storage

7.1. Precautions for safe handling.

Put on appropriate personal protective equipment. Do not swallow. Aspiration hazard if swallowed. Can enter lungs and cause damage. Never siphon by mouth. Avoid contact with

7.2. Incompatibility.

7.2.1. Safe storage condition.

Store in accordance with local regulations. Store in a segregated and approved area. Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) . Store locked up. Keep away from heat and direct sunlight. Eliminate all ignition sources. Separate

7.2.2. Incompatible chemicals condition.

Light hydrocarbon vapours can build up in the headspace of tanks. These can cause flammability/explosion hazards even at temperatures below the normal flash point (note: flash

7.3. Storage area :

GC6

7.4. Incompatible chemicals condition.

No data available

7.5. Hazard Class by UN :

3

7.6. Classification :

-

8

Exposure controls/personal protection

8.1. Occupational exposure limit values or biological limit values

Name	TLV-TWA	TLV-STEL	TLV-C	PEL	IDLH	Thai	biological limit values
ACGIH	200 mg/m ³	-	-	-	-	-	-
NIOSH	-	-	-	: REL-TWA 100 mg/	-	-	-

8.2. Appropriate engineering controls

No data available

8.3. Personal protective equipment



8.4. Personal hygiene

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Wash thoroughly after handling. Remove contaminated clothing and

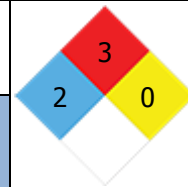
8.5. Other protection

No data available



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Physical and chemical properties

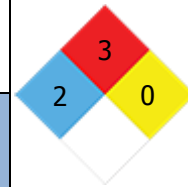
9.1. Appearance :	Liquid		
9.2. Odour :	little smell		
9.3. Odour threshold limit :	N/A ppm		
9.4. pH-value :	-		
9.5. Melting point & Freezing point :	Melting point	- °C	
	Freezing point	- °C	
9.6. Initial boiling point/Boiling range	Boiling/condensation point	150 °C	
	Evaporation rate	- °C -- °C	
9.7. Flash point :	30 °C (Close cup)		
9.8. Evaporation rate :	- mg/sec		
9.9. Flammability (solid, gas) :	Burning time	- sec	
	Burning Rate	- mm/sec	
9.10. Upper/lower flammability or explosive limits :	0.7 % LEL and/or 5 %UEL		
9.11. Vapour pressure :	0.48 kPa at 20 °C		
9.12. Vapour density :	Respect to air	4.5 kPa	
9.13. Relative density :	0.8-0.803 g/cm ³ or kg/m ³ at		
9.14. Solubility(ies) :	-		
9.15. Partition coefficient : n-octanol/water :	3.3-6.0		
9.16. Auto-ignition temperature :	210 °C		
9.17. Decomposition temperature :	- °C		
9.18. Viscosity :	1-1.3 mm ² /s 40 °C		
9.19. Heat of Combustion :	- °C		
9.20. The ignition distance test :	- cm		
9.21. The enclosed space ignition test	- s/m ³		
9.22. The foam test :	Vapor density	-	cm
	Flames burning up	-	sec

Detail	Type of Substance		Unit
	Other substance	Powders or dusts	
Use water spray to blanket fire, cool fire exposed containers, to stop leak, and burn	-	-	minute
Burning time	-	-	sec
Burning rate	-	-	mm/s



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10

Stability and reactivity

10.1. Reactivity

Avoid excessive heat.

10.2. Chemical Stability :

- Stability Instability and emit gas N/A

10.3. Possibility of Hazardous reaction : No data available

10.4. Conditions to avoid :

Avoid all possible sources of ignition (spark or flame) .

10.5. Incompatible materials :

Reactive or incompatible with the following materials: oxidising materials.

10.6. Hazardous decomposition products :

Under normal conditions of storage and use, hazardous decomposition products should not be

10.7. Corrosively :

N/A

11

Toxicological information

11.1. Route of Exposure Inhalation Ingestion Skin contact Eye contact

11.2. Symptoms related to the physical, chemical and toxicological characteristics

11.2.1. Symptom related with physical characteristic

Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.
Irritating to mouth, throat and stomach. Aspiration hazard if swallowed -- harmful or fatal if liquid is aspirated into lungs.

11.2.2. Symptom related with chemical characteristic

No data available

11.2.3. Symptom related with toxicology

No data available

11. The impact of acute and delayed (delayed and immediate effects) including chronic (chronic effects) exposure (Contact delayed, immediate and chronic effects)

May be harmful by inhalation if exposure to vapour, mists or fumes resulting from thermal decomposition products occurs. Vapour, mist or fume may irritate the nose, mouth and respiratory tract.

11.4. Numerical measures of toxicity

11.4.1. Acute oral toxicity :

No data available

11.4.2. Acute dermal toxicity :

No data available

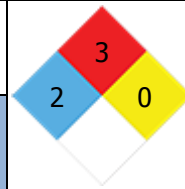
11.4.3. Acute toxic of the vapour :

No data available



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Ecological information

12.1. Eco toxicity (aquatic and terrestrial, where available)

12.1.1. Toxicity to fish : NOEC/NOEL=0.098 mg/L (Fish)

12.1.2. Crustaceans / Toxicity to crustaceans : N/A

12.1.3. Algae / Toxicity to algae : N/A

12.2. Degradability and persistence

Toxic to aquatic life with long lasting effects.

12.3. Bio-accumulative potential : Log Kow : 3.3-6

12.4. Mobility in soil : Spillages may penetrate the soil causing ground water contamination.

12.5. Other adverse effects :

No data available

13

Disposal considerations

13.1. Waste information : No data available

13.2. Remain materials : No data available

13.3. Waste disposal : No data available

13.4. Package contaminated disposal : No data available

14

Transport information

14.1. UN Number : 1223

14.2. UN Proper Shipping Name : KEROSENE

14.3. Transport Class/Division : 3

14.4. Package group (if any) : III

14.5. Marine pollution : Yes No N/A

14.6. Special precautionary for user : N/A

14.7. Transport in bulk : MARPOL Annex 1 rules apply for bulk shipments by sea.

14.8. Classification code : F1

14.9. Other :

N/A

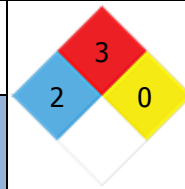
Pictogram





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Regulatory information

15.1. Safety, health and environmental regulations

No data available

16

Regulatory information

16.1. Date of latest issue

18/9/2018

16.2. Description of point of Safety Data Sheet changing

No data available

16.3. Abbreviation explanation

-

NFPA Hazard Code	HMIS Hazard	Rating System
Hazardous decomposition products Health hazard Specific hazards Possibility of hazardous reactions arising from the chemical	2 Health	0 = No hazard 1 = Slight hazard 2 = Moderate hazard 3 = Serious hazard 4 = Severe hazard
	3 Flammability	
	0 Reactivity	

16.4. Information Safety Data Sheet files

Primary Reference :

Secondary Reference :

16.5. Local Legislation Related

[HAZARDOUS SUBSTANCE ACT B.E. 2535](#)

16.6. Reference

http://www.cpchem.com/msds/100000014588_SDS_US_EN.PDF

16.7. Other details

No data available

Jet A1

NFPA Rating



Emergency Call

038-971191

UN Number : 1223 CAS Number : 8008-20-6
Flash point : 30°C Auto-ignition : 210°C
TWA-TLV : 200 mg/m3 Classification : F1

Hazard Statement

, , 0,



Health Effects

Fatal if swallowed, Toxic if swallowed, Harmful if swallowed, May be harmful if swallowed, Fatal in contact with skin, Toxic in contact with skin, Harmful in contact with skin, May be harmful in contact with skin, Fatal if inhaled, Toxic if inhaled, Harmful if inhaled, May be harmful if inhaled, Causes severe skin burns and eye damage, Causes skin irritation, Causes mild skin irritation, Causes serious eye damage, Causes serious eye irritation, Causes eye irritation, May cause allergy or asthma

Protective equipment

Protective clothing must be worn, Use hand protection in this area, Wear eye protection where appropriate, Respirators must be used where appropriate



first aid

If inhaled, remove to fresh air. Get medical attention, In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Drench contaminated clothing with water before removing. This is necessary to avoid the risk of sparks from static electricity that could ignite contaminated clothing. Contaminated clothing is a fire hazard. Contaminated leather., In case of contact, immediately flush eyes with plenty of water for at least 15 minutes while removing contaminated contact lenses if present and easy to remove. Get medical attention.



Unsuitable extinguishing media

In case of fire, use water fog, foam, dry chemical or carbon dioxide extinguisher or spray., Do not use water jet.



Hazardous Materials Handling and Storage

Put on appropriate personal protective equipment. Do not swallow. Aspiration hazard if swallowed. Can enter lungs and cause damage. Never siphon by mouth. Avoid contact with, Store in accordance with local regulations. Store in a segregated and approved area. Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) . Store locked up. Keep away from heat and direct sunlight. Eliminate all ignition sources. Separate, Light hydrocarbon vapours can build up in



Methods and materials for containment and cleaning up

Immediately contact emergency personnel. No action shall be taken involving any personal risk or without suitable training. Eliminate all ignition sources. Evacuate surrounding areas. Keep, -, Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers,, Eliminate all ignition sources. Stop leak if without risk. Move containers from spill area. Absorb with an inert mate

For more information please contact :

Code No. 10060021

Number of Revision :

6

Warning : danger

Occupational Health and Environment Tel.1191

Jet A1

UN No : 1223

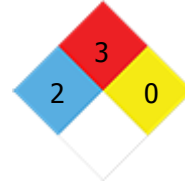
CAS No : 8008-20-6



Signal words : **Danger**

Hazard statement :

... ,



First Aid :

If inhaled, remove to fresh air. Get medical attention, In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Drench contaminated clothing with water before removing. This is necessary to avoid the risk of sparks from static electricity that could ignite contaminated clothing. Contaminated clothing is a fire hazard. Contaminated leather., In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.

Precautionary information :

- Keep container tightly closed
- Keep away from heat, [sparks] [and flame] [- No Smoking]
- Keep container/package tightly closed and in a well-ventilated place
- Use CO2, dry chemical, or foam

Emergency number :

038-971191

Manufacturer or Supplier Details

Company : PTT Global Chemical Public Company Limited

Address : 8, I-8 Road, Map Ta Phut Industrial Estate, Map Ta Phut, Mueang Rayong, Rayong 21150 Thailand.

Telephone : +66(0) 3897-1000

Telephone number : Telephone : +66(0) 3897-1000

Protective equipment

