SAFETY DATA SHEET

SECTION 1: IDENTIFICATION OF THE HAZARDOUS CHEMICAL AND OF THE SUPPLIER

1.1 Product identifiers

Product name	: Picric Acid
Product number	: 79313
Brand	: Chemiz

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

Identified uses	: For R&D, laboratory and manufacture use only. Not for household or other uses.

1.3 Details of the supplier of the safety data sheet

Company	: Chemiz (M) Sdn. Bhd. 9, Jalan Salung 33/26, Shah Alam Technology Park, Seksyen 33, 40400 Shah Alam, Selangor, Malaysia.
Telephone	: +601 3328 6628
Email	: enquiry@chemiz.my

1.4 Emergency telephone number

Emergency phone	: +601 3327 6627

SECTION 2: HAZARDS IDENTIFICATION

2.1 GHS Classification

Classification according to CLASS regulations 2013

Acute toxicity, Oral (Category 4), H302
Acute toxicity, Inhalation (Category 3), H331
Acute toxicity, Dermal (Category 3), H311

2.2 GHS Label elements, including precautionary statements

Labelling according to CLASS regulations 2013

Pictogram

Signal word: Danger

Hazard statement(s)

H302	Harmful if swallowed.
H311 + H331	Toxic in contact with skin or if inhaled.

Precautionary statement(s)

P261	Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P264	Wash skin thoroughly after handling.
P280	Wear protective gloves/ protective clothing.
P302 + P352 + P312	IF ON SKIN: Wash with plenty of soap and water. Call a POISON CENTER or doctor/ physician if you feel unwell.
P304 + P340 + P311	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician.

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

2.3 Other hazards

none

SECTION 3: COMPOSITION AND INFORMATION OF THE INGREDIENTS OF THE HAZARDOUS CHEMICAL

Substance/Mixture Substance

3.1 Substances

Synonyms 2,4,6-Trinitrophenol

Formula $C_6H_3N_3O_7$
Molecular weight 229.10 g/mol
CAS-No. 88-89-1
EC-No. 201-865-9
Index-No. 609-009-00-X

Hazardous components

Component Picric acid
Classification Expl. 1.1; Acute Tox. 3; H201, H301, H331, H311
Concentration <= 100 %

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

General advice

First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air. Immediately call in physician. If breathing stops: immediately apply artificial respiration, if necessary also oxygen.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

In case of eye contact

After eye contact: rinse out with plenty of water. Remove contact lenses.

If swallowed

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media
Water Foam Carbon dioxide (CO2) Dry powder

Unsuitable extinguishing media
For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture
Carbon oxides
Nitrogen oxides (NOx)
Combustible.
Explosive decomposition possible on heating.
Forms explosive mixtures with air on intense heating.
Avoid shock and friction.
Vapours are heavier than air and may spread along floors.
Development of hazardous combustion gases or vapours possible in the event of fire.
In the event of decomposition: danger of explosion!
Risk of dust explosion.
Forms explosive mixtures with air on intense heating.

5.3 Advice for firefighters
Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

5.4 Further information
Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Advice for non-emergency personnel: Avoid generation and inhalation of dusts in all circumstances. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.
For personal protection see section 8.

6.2 Environmental precautions
Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up
Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully. Dispose of properly. Clean up affected area. Avoid generation of dusts.

6.4 Reference to other sections
For disposal see section 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Advice on safe handling

Work under hood. Do not inhale substance/mixture.

Advice on protection against fire and explosion
Keep away from open flames, hot surfaces and sources of ignition.

Hygiene measures
Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions
Keep locked up or in an area accessible only to qualified or authorized persons. Tightly closed and away from sources of ignition and heat. Observe national regulations.

Keep wetted with water. Do not allow material to become dry.

7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

Component	Picric acid
CAS-No.	88-89-1
Value	TWA
Control parameters	0.1 mg/m3
Basis	Malaysia. Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations 2000.

8.2 Exposure controls

Appropriate engineering controls
Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

Personal protective equipment

Eye/face protection
Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses.

Skin protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

Body Protection
protective clothing

Respiratory protection
required when dusts are generated.
Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Control of environmental exposure
Do not let product enter drains.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a) Appearance	Form: solid Colour: yellow
b) Odour	No data available
c) Odour threshold	No data available
d) pH	No data available
e) Melting point/freezing point	Melting point/range: 121 - 123 °C
f) Initial boiling point and boiling range	No data available
g) Flash point	150 °C - closed cup
h) Evaporation rate	No data available
i) Flammability (solid, gas)	No data available
j) Upper/lower flammability or explosive limits	No data available
k) Vapour pressure	1 hPa at 195 °C
l) Vapour density	No data available
m) Relative density	No data available
n) Water solubility	soluble
o) Partition coefficient: n-octanol/water	log Pow: 1.33
p) Auto-ignition temperature	No data available
q) Decomposition temperature	No data available
r) Viscosity	No data available
s) Explosive properties	No data available
t) Oxidizing properties	No data available

9.2 Other safety information
No data available

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity
sensitive to shock
The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.
Forms explosive mixtures with air on intense heating.
A range from approx. 15 Kelvin below the flash point is to be rated as critical.
The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.

10.2 Chemical stability
heat-sensitive

The product is chemically stable under standard ambient conditions (room temperature).
Contains the following stabilizer(s):
water (>=30 - <=40 %)

10.3 Possibility of hazardous reactions
No data available

10.4 Conditions to avoid
Picric acid forms salts with many metals some of which are rather sensitive to heat, friction, or impact, e.g., lead, iron, zinc, nickel, copper, etc., and should be considered dangerously sensitive. The salts formed with ammonia and amines, and the molecular complexes with aromatic hydrocarbons, etc, are in general not so sensitive. Contact of picric acid with concrete floors may form the friction-sensitive calcium salt. Dry mixtures of picric acid and aluminium powder are inert, but the addition of water causes ignition after a delay dependent upon the quantity added. Storage conditions: records of purchase dates should be maintained for each container. Material older than 2 years should be disposed. Inspect and add water every six months as needed. Rotate containers to distribute water every three months.
Avoid shock and friction.
Heating (explosive decomposition).
Strong heating.

10.5 Incompatible materials
Strong bases, Reducing agents, Heavy metals, Heavy metal salts, Ammonia, various plastics

10.6 Hazardous decomposition products
In the event of fire: see section 5

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity
Oral: No data available
LD50 Oral - Rat - 200 mg/kg (picric acid)
Acute toxicity estimate Inhalation - 4 h - 0.835 mg/l
(Calculation method)
Inhalation: No data available
Acute toxicity estimate Dermal - 500 mg/kg
(Calculation method)
Dermal: No data available
LD50 Intraperitoneal - Mouse - 56.3 mg/kg (picric acid)

Skin corrosion/irritation
No data available

Serious eye damage/eye irritation
Eyes - Rabbit (picric acid)
Result: No eye irritation

Respiratory or skin sensitisation
No data available

Germ cell mutagenicity
No data available

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available (picric acid)

11.2 Additional Information
Discoloration of the skin., Picric acid dust causes sensitization dermatitis. This usually occurs on the face, especially around the mouth and the sides of the nose; the condition progresses from edema, through the formation of papules and vesicles, to ultimate desquamation. Inhalation of high concentrations of dust has caused unconsciousness, weakness, muscle pain, and kidney problems. Swallowing picric acid may cause a bitter taste, headache, dizziness, nausea, vomiting, and diarrhea. High doses may cause destruction of the red blood cells and damage to the kidneys and liver with blood in the urine.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity
No data available

12.2 Persistence and degradability
No data available

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available (picric acid)

12.5 Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects
No data available

SECTION 13: DISPOSAL INFORMATION

13.1 Waste treatment methods

Product
Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

SECTION 14: TRANSPORT INFORMATION

14.1 UN number

ADR/RID: 1344	IMDG: 1344	IATA-DGR: 1344

14.2 UN proper shipping name

ADR/RID:	TRINITROPHENOL, WETTED
IMDG:	TRINITROPHENOL, WETTED
IATA-DGR:	Trinitrophenol, wetted

14.3 Transport hazard class(es)

ADR/RID: 4.1	IMDG: 4.1	IATA-DGR: 4.1

14.4 Packaging group

ADR/RID: I	IMDG: I	IATA-DGR: I

14.5 Environmental hazards

ADR/RID: no	IMDG Marine pollutant: no	IATA-DGR: no

14.6 Special precautions for user

None

14.7 Incompatible materials

Strong bases, Reducing agents, Heavy metals, Heavy metal salts, Ammonia, various plastics

Other regulations

Hazchem Code 1W

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

No data available

SECTION 16: OTHER INFORMATION

Further information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. We shall not be held liable for any damage resulting from handling or from contact with the above product.

Version 21.5 (11.05.2021)