

Otto Chemie Pvt Ltd

An ISO 9001 : 2015 & GMP Certified Company
Office : No 603, 6th Floor, Tardeo AC Market, 87, Tardeo Road,
Tardeo, Mumbai, Maharashtra 400034, India (BHARAT)
Tel : + 91 98200 41841 Email : info@ottokemi.com Web : www.ottokemi.com

Creation Date: 23-06-2026

Revision Date: 20-11-2031

MATERIAL SAFETY DATA SHEET (MSDS)

SECTION 1: Product identifiers

Product Name: Ammonium metavanadate, 99.99% trace metals basis
Product Code: A 2218
CAS No: 7803-55-6

1.2. Relevant identified uses of the substance or mixture and uses advised against
Use : Industrial. For professional use only.

1.3. Details of the supplier of the safety data sheet

Company identification
OTTO CHEMIE PVT LTD
No 603, 6th Floor, Tardeo AC Market, 87, Tardeo Road,
Tardeo, Mumbai, Maharashtra 400034, India (BHARAT)

1.4. Emergency telephone number

Phone no. : + 91 98200 41841 (10 : 00 am – 06 : 00 pm)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Acute toxicity, Category 3

Acute toxicity, Category 4

Eye irritation, Category 2

Reproductive toxicity, Category 2

Specific target organ toxicity -

repeated exposure, Category 1,

Respiratory Tract

Long-term (chronic) aquatic hazard,

Category 2

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms

Signal word

Hazard statements

H301: Toxic if swallowed.

H332: Harmful if inhaled.

H319: Causes serious eye irritation.

H361fd: Suspected of damaging fertility.

Suspected of damaging the unborn child.

H372: Causes damage to organs through
prolonged or repeated exposure if inhaled.

H411: Toxic to aquatic life with long lasting
effects.

:
: Danger

: H301 Toxic if swallowed.

H319 Causes serious eye irritation.

H332 Harmful if inhaled.

H361fd Suspected of damaging fertility. Suspected
of damaging the unborn child.

H372 Causes damage to organs (Respiratory
Tract) through prolonged or repeated
exposure if inhaled.

H411 Toxic to aquatic life with long lasting
effects.

:
Prevention:

P202 Do not handle until all safety precautions
have been read and understood.

P260 Do not breathe dust.

P273 Avoid release to the environment.

Response:

P301 + P310 IF SWALLOWED: Immediately call a
POISON CENTER/ doctor.

P304 + P340 + P312 IF INHALED: Remove person to
fresh air and keep comfortable for

Precautionary
Statements

DISCLAIMER

Otto Chemie Pvt Ltd - products are only for laboratory use only. Not for drug, medicinal, household or any other use. No liability accepted for
mishandling in use - please test before use

Otto Chemie Pvt Ltd - shall not be responsible for any damage resulting from handling or from contact with the above product.

Otto Chemie Pvt Ltd - provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy.

This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product

Otto Chemie Pvt Ltd

An ISO 9001 : 2015 & GMP Certified Company
Office : No 603, 6th Floor, Tardeo AC Market, 87, Tardeo Road,
Tardeo, Mumbai, Maharashtra 400034, India (BHARAT)
Tel : + 91 98200 41841 Email : info@ottokemi.com Web : www.ottokemi.com

Reduced Labelling (<= 125 ml)
Hazard pictograms
Signal word
Hazard Statements
H372

H301
H361

Precautionary Statements
P202

P260
P301 + P310
Supplemental Hazard
Statements
2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances

Substance name : Ammonium trioxovanadate

EC-No. : 232-261-3

Components

Chemical name	CAS-No. EC-No.	Concentration (%) w/w)	M-Factor, SCL, ATE
Ammonium monovanadate	7803-55-6 232-261-3	>= 90 - <= 100	Acute toxicity estimate Acute oral toxicity: 169,33 mg/kg 169,33 mg/kg Acute inhalation toxicity (dust/mist): 2,51 mg/l

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : Show this 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

breathing. Call a POISON CENTER/ doctor if you feel unwell.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

:
Danger

Causes damage to organs through prolonged or repeated exposure if inhaled.

Toxic if swallowed.

fd Suspected of damaging fertility. Suspected of damaging the unborn child.

Do not handle until all safety precautions have been read and understood.

Do not breathe dust.

IF SWALLOWED: Immediately call a POISON CENTER/ doctor. none

DISCLAIMER

Otto Chemie Pvt Ltd - products are only for laboratory use only. Not for drug, medicinal, household or any other use. No liability accepted for mishandling in use - please test before use

Otto Chemie Pvt Ltd - shall not be responsible for any damage resulting from handling or from contact with the above product.

Otto Chemie Pvt Ltd - provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy.

This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product

Otto Chemie Pvt Ltd

An ISO 9001 : 2015 & GMP Certified Company
Office : No 603, 6th Floor, Tardeo AC Market, 87, Tardeo Road,
Tardeo, Mumbai, Maharashtra 400034, India (BHARAT)
Tel : + 91 98200 41841 Email : info@ottokemi.com Web : www.ottokemi.com

contaminated clothing. Rinse skin with water/ shower.

Consult a physician.

In case of eye contact : After eye contact: rinse out with plenty of water.

Call in ophthalmologist.

Remove contact lenses.

If swallowed : If swallowed: give water to drink (two glasses at most). Seek medical advice immediately. In exceptional cases only, if medical care is not available within one hour, induce vomiting (only in persons who are wide awake and fully conscious), administer activated charcoal (20 - 40 g in a 10% slurry) and consult a doctor as quickly as possible.

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

: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

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

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire fighting

: Not combustible.

Ambient fire may liberate hazardous vapours.

Hazardous combustion products

: Nitrogen oxides (NOx)

Vanadium/vanadium oxides

5.3 Advice for firefighters

Special protective

equipment 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.

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

Personal precautions : 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

Environmental precautions

: Do not let product enter drains.

DISCLAIMER

Otto Chemie Pvt Ltd - products are only for laboratory use only. Not for drug, medicinal, household or any other use. No liability accepted for mishandling in use - please test before use

Otto Chemie Pvt Ltd - shall not be responsible for any damage resulting from handling or from contact with the above product.

Otto Chemie Pvt Ltd - provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy.

This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product

Otto Chemie Pvt Ltd

An ISO 9001 : 2015 & GMP Certified Company
Office : No 603, 6th Floor, Tardeo AC Market, 87, Tardeo Road,
Tardeo, Mumbai, Maharashtra 400034, India (BHARAT)
Tel : + 91 98200 41841 Email : info@ottokemi.com Web : www.ottokemi.com

6.3 Methods and material for containment and cleaning up
Methods for 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 considerations 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.
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
Further information on storage conditions
: Tightly closed. Dry. Keep in a well-ventilated place.
Keep locked up or in an area accessible only to qualified or authorised persons.
Storage class (TRGS 510) : 6.1B, Non-combustible, acute toxic Cat. 1 and 2 / very toxic hazardous materials
Further information on storage stability
: Moisture sensitive.
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/personal protection

8.1 Control parameters
Occupational Exposure Limits
8.2 Exposure controls
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
Hand protection
Material : Nitrile rubber
Break through time : 480 min
Glove thickness : 0,11 mm
Protective index : Full contact
Manufacturer : KCL 741 Dermatril® L
Material : Nitrile rubber
Break through time : 480 min
Glove thickness : 0,11 mm
Protective index : Splash contact
Manufacturer : KCL 741 Dermatril® L
Remarks : This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D36124 Eichenzell, Internet: www.kcl.de).
Skin and body protection : protective clothing
Respiratory protection : required when dusts are generated.
Our recommendations on filtering respiratory protection are based on the following standards: DIN

DISCLAIMER

Otto Chemie Pvt Ltd - products are only for laboratory use only. Not for drug, medicinal, household or any other use. No liability accepted for mishandling in use - please test before use
Otto Chemie Pvt Ltd - shall not be responsible for any damage resulting from handling or from contact with the above product.
Otto Chemie Pvt Ltd - provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy.
This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product

Otto Chemie Pvt Ltd

An ISO 9001 : 2015 & GMP Certified Company
Office : No 603, 6th Floor, Tardeo AC Market, 87, Tardeo Road,
Tardeo, Mumbai, Maharashtra 400034, India (BHARAT)
Tel : + 91 98200 41841 Email : info@ottokemi.com Web : www.ottokemi.com

EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Recommended Filter

type:

: Filter type P3

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer.

These measures have to be properly documented.

Environmental exposure controls

Advice : Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state

: Powder or crystal or crystalline granules

Form

: crystalline

Color

: colourless

Odor

: odourless

Melting point

: 200 °C

(decomposition)

: Not applicable

: The product is not flammable.

No data available

Flammability

Upper explosion limit /:

No data available

Upper flammability limit

Lower explosion limit /:

Lower flammability limit

Flash point

: Not applicable

Autoignition temperature

: not combustible

Decomposition

: > 150 °C

temperature

pH

: 7 (20 °C)

Concentration: 5,1 g/l

Viscosity, dynamic

: No data available

Viscosity, kinematic

: No data available

Flow time

: No data available

Solubility(ies)

Water solubility

: 7,81 g/l (20 °C)

pH: 6

Method: OECD Test Guideline 105

Partition coefficient: noctanol/water:

Not applicable for inorganic substances

Vapor pressure

: No data available

Relative density

: 2,32 (20 °C)

Method: OECD Test Guideline 109

Density

: 2,32 g/cm³ (25 °C)

Method: lit.

: No data available

Relative vapour density

9.2 Other information

Explosives

: Not classified as explosive.

Oxidizing properties

: none

Burning rate

: No data available

Evaporation rate

: No data available

Molecular weight

: 116,98 g/mol

SECTION 10: Stability and reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

10.3 Possibility of hazardous reactions

Hazardous reactions : Violent reactions possible with:

Strong oxidizing agents

DISCLAIMER

Otto Chemie Pvt Ltd - products are only for laboratory use only. Not for drug, medicinal, household or any other use. No liability accepted for mishandling in use - please test before use

Otto Chemie Pvt Ltd - shall not be responsible for any damage resulting from handling or from contact with the above product.

Otto Chemie Pvt Ltd - provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy.

This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product

Otto Chemie Pvt Ltd

An ISO 9001 : 2015 & GMP Certified Company
Office : No 603, 6th Floor, Tardeo AC Market, 87, Tardeo Road,
Tardeo, Mumbai, Maharashtra 400034, India (BHARAT)
Tel : + 91 98200 41841 Email : info@ottokemi.com Web : www.ottokemi.com

acids

Generates dangerous gases or fumes in contact with:

alkalines

Release of:

Ammonia

10.4 Conditions to avoid

Conditions to avoid : no information available

10.5 Incompatible materials

No data available

10.6 Hazardous decomposition products

In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Routes of Entry: Absorbed through skin. Dermal contact. Eye contact. Toxicity to Animals:

Oral LD50 Rat: 1500 mg/kg; Dermal LD50 Rabbit: 2000mg/kg

Inhalation LC50 Rat: > 50mg/L.

Chronic Effects on Humans: CARCINOGENIC EFFECTS: Classified None. by NTP, None. by OSHA, None. by NIOSH.

Other Toxic Effects on Humans: Hazardous in case of skin contact (irritant), of inhalation (lung irritant).

Special Remarks on Toxicity

to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Not available.

Special Remarks on other Toxic Effects on Humans: Not available.

SECTION 12: Ecological information

12.1 Toxicity

Components:

Ammonium monovanadate:

Toxicity to fish : LC50 (Limanda limanda): 27,8 mg/l

End point: mortality

Exposure time: 96 h

Test Type: flow-through test

Analytical monitoring: yes

Remarks: (ECHA)

Toxicity to fish (Chronic

toxicity)

: NOEC: 0,870 mg/l

End point: mortality

Exposure time: 30 d

Species: Clarias batrachus (Walking catfish)

Test Type: semi-static test

Remarks: (ECHA)

12.2 Persistence and degradability

Components:

Ammonium monovanadate:

Biodegradability : Remarks: The methods for determining the biological degradability are not applicable to inorganic substances.

12.3 Bioaccumulative potential

Components:

Ammonium monovanadate:

Partition coefficient: octanol/water

: Remarks: Not applicable for inorganic substances

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

Product:

Assessment : This substance/mixture contains no components

considered to be either persistent, bioaccumulative

and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Endocrine disrupting properties

DISCLAIMER

Otto Chemie Pvt Ltd - products are only for laboratory use only. Not for drug, medicinal, household or any other use. No liability accepted for mishandling in use - please test before use

Otto Chemie Pvt Ltd - shall not be responsible for any damage resulting from handling or from contact with the above product.

Otto Chemie Pvt Ltd - provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy.

This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product

Otto Chemie Pvt Ltd

An ISO 9001 : 2015 & GMP Certified Company
Office : No 603, 6th Floor, Tardeo AC Market, 87, Tardeo Road,
Tardeo, Mumbai, Maharashtra 400034, India (BHARAT)
Tel : + 91 98200 41841 Email : info@ottokemi.com Web : www.ottokemi.com

Product:

Assessment

: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

No data available

12.7 Other adverse effects

No data available

SECTION 13: Disposal considerations

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 or ID number

ADR : UN 2859

IMDG : UN 2859

IATA : UN 2859

14.2 UN proper shipping name

ADR : AMMONIUM METAVANADATE

IMDG : AMMONIUM METAVANADATE

IATA : Ammonium metavanadate

14.3 Transport hazard class(es)

Class Subsidiary risks

ADR : 6.1

IMDG : 6.1

IATA : 6.1

14.4 Packing group

ADR

Packing group : II

Classification Code : T5

Hazard Identification : 60

Number

Labels : 6.1

Tunnel restriction code : (D/E)

IMDG

Packing group : II

Labels : 6.1

EmS Code : F-A, S-A

IATA (Cargo)

Packing instruction (cargo aircraft) : 676

Packing instruction (LQ) : Y644

Packing group : II

Labels : Division 6.1 - Toxic substances

IATA_P (Passenger) : 669

Packing instruction (passenger aircraft)

Packing instruction (LQ) : Y644

Packing group : II

Labels : Division 6.1 - Toxic substances

14.5 Environmental hazards

ADR

Environmentally hazardous : no

IMDG

Marine pollutant : no

DISCLAIMER

Otto Chemie Pvt Ltd - products are only for laboratory use only. Not for drug, medicinal, household or any other use. No liability accepted for mishandling in use - please test before use

Otto Chemie Pvt Ltd - shall not be responsible for any damage resulting from handling or from contact with the above product.

Otto Chemie Pvt Ltd - provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy.

This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product

Otto Chemie Pvt Ltd

An ISO 9001 : 2015 & GMP Certified Company
Office : No 603, 6th Floor, Tardeo AC Market, 87, Tardeo Road,
Tardeo, Mumbai, Maharashtra 400034, India (BHARAT)
Tel : + 91 98200 41841 Email : info@ottokemi.com Web : www.ottokemi.com

14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII)

: Conditions of restriction for the following entries should be considered:

Number on list 65: Ammonium monovanadate

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).

: Not applicable

Regulation (EU) No 2024/590 on substances that deplete the ozone layer

: Not applicable

Regulation (EU) 2019/1021 on persistent organic pollutants (recast)

: Not applicable

REACH - List of substances subject to : Not applicable authorisation (Annex XIV)

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

E2 ENVIRONMENTAL HAZARDS

Other regulations:

Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.

Take note of Dir 94/33/EC on the protection of young people at work.

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out

SECTION 16: Other Information

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.

Creation Date: 23-06-2026

Revision Date: 20-11-2031

DISCLAIMER

Otto Chemie Pvt Ltd - products are only for laboratory use only. Not for drug, medicinal, household or any other use. No liability accepted for mishandling in use - please test before use

Otto Chemie Pvt Ltd - shall not be responsible for any damage resulting from handling or from contact with the above product.

Otto Chemie Pvt Ltd - provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy.

This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product