

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1. Product identifier

Product Description: **3-Amino-5-phenyl-1,2,4-thiadiazole**  
Cat No. : **H33552**  
CAS No 27182-54-3  
Molecular Formula C8 H7 N3 S

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

Recommended Use Laboratory chemicals.  
Uses advised against No Information available

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

Company Avocado Research Chemicals Ltd.  
(Part of Thermo Fisher Scientific)  
Shore Road, Heysham  
Lancashire, LA3 2XY,  
United Kingdom  
Office Tel: +44 (0) 1524 850506  
Office Fax: +44 (0) 1524 850608

E-mail address begel.sdsdesk@thermofisher.com

### 1.4. Emergency telephone number

For information **US** call: 001-800-227-6701 / **Europe** call: +32 14 57 52 11  
Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99  
**CHEMTREC** Tel. No. **US**:001-800-424-9300 / **Europe**:001-703-527-3887

## SECTION 2: HAZARDS IDENTIFICATION

### 2.1. Classification of the substance or mixture

#### CLP Classification - According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567

##### Physical hazards

Based on available data, the classification criteria are not met

##### Health hazards

|                       |                   |
|-----------------------|-------------------|
| Acute oral toxicity   | Category 4 (H302) |
| Acute dermal toxicity | Category 4 (H312) |

# SAFETY DATA SHEET

3-Amino-5-phenyl-1,2,4-thiadiazole

Revision Date 17-Feb-2024

Acute Inhalation Toxicity - Dusts and Mists

Category 4 (H332)

## Environmental hazards

Based on available data, the classification criteria are not met

Full text of Hazard Statements: see section 16

## 2.2. Label elements



Signal Word

Warning

## Hazard Statements

H302 + H312 + H332 - Harmful if swallowed, in contact with skin or if inhaled

## Precautionary Statements

P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting

P312 - Call a POISON CENTER or doctor if you feel unwell

P280 - Wear protective gloves/protective clothing

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water

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

## 2.3. Other hazards

This product does not contain any known or suspected endocrine disruptors

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1. Substances

| Component                         | CAS No     | EC No | Weight % | CLP Classification - According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567 |
|-----------------------------------|------------|-------|----------|-----------------------------------------------------------------------------------------|
| 5-Phenyl-1,2,4-thiadiazol-3-amine | 27182-54-3 |       | <=100    | Acute Tox. 4 (H302)<br>Acute Tox. 4 (H312)<br>Acute Tox. 4 (H332)                       |

Full text of Hazard Statements: see section 16

## SECTION 4: FIRST AID MEASURES

### 4.1. Description of first aid measures

#### **General Advice**

If symptoms persist, call a physician.

#### **Eye Contact**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get

# SAFETY DATA SHEET

3-Amino-5-phenyl-1,2,4-thiadiazole

Revision Date 17-Feb-2024

|                                           |                                                                                                                                                  |
|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
|                                           | medical attention.                                                                                                                               |
| <b>Skin Contact</b>                       | Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.                                |
| <b>Ingestion</b>                          | Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.                                            |
| <b>Inhalation</b>                         | Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.                                     |
| <b>Self-Protection of the First Aider</b> | Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. |

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

None reasonably foreseeable.

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

**Notes to Physician** Treat symptomatically.

## **SECTION 5: FIREFIGHTING MEASURES**

### **5.1. Extinguishing media**

#### **Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Water spray, carbon dioxide (CO<sub>2</sub>), dry chemical, alcohol-resistant foam.

#### **Extinguishing media which must not be used for safety reasons**

No information available.

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

Thermal decomposition can lead to release of irritating gases and vapors.

#### **Hazardous Combustion Products**

None under normal use conditions.

### **5.3. Advice for firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## **SECTION 6: ACCIDENTAL RELEASE MEASURES**

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

Ensure adequate ventilation. Use personal protective equipment as required. Avoid dust formation.

### **6.2. Environmental precautions**

Should not be released into the environment. See Section 12 for additional Ecological Information.

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

Sweep up and shovel into suitable containers for disposal. Keep in suitable, closed containers for disposal.

### **6.4. Reference to other sections**

# SAFETY DATA SHEET

3-Amino-5-phenyl-1,2,4-thiadiazole

Revision Date 17-Feb-2024

Refer to protective measures listed in Sections 8 and 13.

## SECTION 7: HANDLING AND STORAGE

### 7.1. Precautions for safe handling

Wear personal protective equipment/face protection. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Avoid dust formation.

#### **Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.

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

Keep container tightly closed in a dry and well-ventilated place.

**Technical Rules for Hazardous Substances (TRGS) 510**      Class 11  
**Storage Class (LGK) (Germany)**

### 7.3. Specific end use(s)

Use in laboratories

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Control parameters

#### **Exposure limits**

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

#### **Biological limit values**

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

#### **Derived No Effect Level (DNEL) / Derived Minimum Effect Level (DMEL)**

No information available

#### **Predicted No Effect Concentration (PNEC)**

No information available.

### 8.2. Exposure controls

#### **Engineering Measures**

Ensure adequate ventilation, especially in confined areas.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

# SAFETY DATA SHEET

3-Amino-5-phenyl-1,2,4-thiadiazole

Revision Date 17-Feb-2024

## Personal protective equipment

### Eye Protection

Wear safety glasses with side shields (or goggles) (European standard - EN 166)

### Hand Protection

Protective gloves

| Glove material                                      | Breakthrough time                    | Glove thickness | EU standard | Glove comments        |
|-----------------------------------------------------|--------------------------------------|-----------------|-------------|-----------------------|
| Natural rubber<br>Nitrile rubber<br>Neoprene<br>PVC | See manufacturers<br>recommendations | -               | EN 374      | (minimum requirement) |

### Skin and body protection

Long sleeved clothing.

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves.  
(Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

### Respiratory Protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

### Large scale/emergency use

Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced

**Recommended Filter type:** Particulates filter conforming to EN 143

### Small scale/Laboratory use

Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

**Recommended half mask:-** Valve filtering: EN405; or; Half mask: EN140; plus filter, EN 141

When RPE is used a face piece Fit Test should be conducted

### Environmental exposure controls

No information available.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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

#### Physical State

Solid Crystalline

#### Appearance

White

#### Odor

No information available

#### Odor Threshold

No data available

#### Melting Point/Range

136 - 137 °C / 276.8 - 278.6 °F

#### Softening Point

No data available

#### Boiling Point/Range

No information available

#### Flammability (liquid)

Not applicable

Solid

#### Flammability (solid,gas)

No information available

#### Explosion Limits

No data available

#### Flash Point

No information available

**Method -** No information available

#### Autoignition Temperature

No data available

#### Decomposition Temperature

No data available

#### pH

No information available

#### Viscosity

Not applicable

Solid

#### Water Solubility

No information available

#### Solubility in other solvents

No information available

#### Partition Coefficient (n-octanol/water)

#### Vapor Pressure

No data available

#### Density / Specific Gravity

No data available

# SAFETY DATA SHEET

3-Amino-5-phenyl-1,2,4-thiadiazole

Revision Date 17-Feb-2024

|                          |                   |       |
|--------------------------|-------------------|-------|
| Bulk Density             | No data available |       |
| Vapor Density            | Not applicable    | Solid |
| Particle characteristics | No data available |       |

## 9.2. Other information

|                   |                        |
|-------------------|------------------------|
| Molecular Formula | C8 H7 N3 S             |
| Molecular Weight  | 177.23                 |
| Evaporation Rate  | Not applicable - Solid |

## SECTION 10: STABILITY AND REACTIVITY

|                         |                                            |
|-------------------------|--------------------------------------------|
| <u>10.1. Reactivity</u> | None known, based on information available |
|-------------------------|--------------------------------------------|

|                                 |                                 |
|---------------------------------|---------------------------------|
| <u>10.2. Chemical stability</u> | Stable under normal conditions. |
|---------------------------------|---------------------------------|

### 10.3. Possibility of hazardous reactions

|                          |                               |
|--------------------------|-------------------------------|
| Hazardous Polymerization | No information available.     |
| Hazardous Reactions      | None under normal processing. |

|                                  |                                     |
|----------------------------------|-------------------------------------|
| <u>10.4. Conditions to avoid</u> | Incompatible products. Excess heat. |
|----------------------------------|-------------------------------------|

|                                     |             |
|-------------------------------------|-------------|
| <u>10.5. Incompatible materials</u> | None known. |
|-------------------------------------|-------------|

|                                               |                                   |
|-----------------------------------------------|-----------------------------------|
| <u>10.6. Hazardous decomposition products</u> | None under normal use conditions. |
|-----------------------------------------------|-----------------------------------|

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

#### Product Information

|                                        |                                                           |
|----------------------------------------|-----------------------------------------------------------|
| (a) acute toxicity;                    |                                                           |
| Oral                                   | Category 4                                                |
| Dermal                                 | Category 4                                                |
| Inhalation                             | Category 4                                                |
| (b) skin corrosion/irritation;         | No data available                                         |
| (c) serious eye damage/irritation;     | No data available                                         |
| (d) respiratory or skin sensitization; |                                                           |
| Respiratory                            | No data available                                         |
| Skin                                   | No data available                                         |
| (e) germ cell mutagenicity;            | No data available                                         |
| (f) carcinogenicity;                   | No data available                                         |
|                                        | There are no known carcinogenic chemicals in this product |

# SAFETY DATA SHEET

3-Amino-5-phenyl-1,2,4-thiadiazole

Revision Date 17-Feb-2024

|                                            |                           |
|--------------------------------------------|---------------------------|
| (g) reproductive toxicity;                 | No data available         |
| (h) STOT-single exposure;                  | No data available         |
| (i) STOT-repeated exposure;                | No data available         |
| Target Organs                              | No information available. |
| (j) aspiration hazard;                     | Not applicable<br>Solid   |
| Symptoms / effects, both acute and delayed | No information available. |

## 11.2. Information on other hazards

|                                 |                                                                                                                                     |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| Endocrine Disrupting Properties | Assess endocrine disrupting properties for human health. This product does not contain any known or suspected endocrine disruptors. |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|

## SECTION 12: ECOLOGICAL INFORMATION

### 12.1. Toxicity

|                     |                                                                                                                             |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Ecotoxicity effects | Contains no substances known to be hazardous to the environment or that are not degradable in waste water treatment plants. |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------|

|                                            |                          |
|--------------------------------------------|--------------------------|
| <u>12.2. Persistence and degradability</u> | No information available |
|--------------------------------------------|--------------------------|

|                                        |                          |
|----------------------------------------|--------------------------|
| <u>12.3. Bioaccumulative potential</u> | No information available |
|----------------------------------------|--------------------------|

|                               |                          |
|-------------------------------|--------------------------|
| <u>12.4. Mobility in soil</u> | No information available |
|-------------------------------|--------------------------|

|                                                 |                                   |
|-------------------------------------------------|-----------------------------------|
| <u>12.5. Results of PBT and vPvB assessment</u> | No data available for assessment. |
|-------------------------------------------------|-----------------------------------|

### 12.6. Endocrine disrupting properties

|                                 |                                                                           |
|---------------------------------|---------------------------------------------------------------------------|
| Endocrine Disruptor Information | This product does not contain any known or suspected endocrine disruptors |
|---------------------------------|---------------------------------------------------------------------------|

### 12.7. Other adverse effects Persistent Organic Pollutant Ozone Depletion Potential

This product does not contain any known or suspected substance  
This product does not contain any known or suspected substance

## SECTION 13: DISPOSAL CONSIDERATIONS

### 13.1. Waste treatment methods

|                            |                                                                                         |
|----------------------------|-----------------------------------------------------------------------------------------|
| Waste from Residues/Unused | Waste is classified as hazardous. Dispose of in accordance with the European Directives |
|----------------------------|-----------------------------------------------------------------------------------------|

# SAFETY DATA SHEET

3-Amino-5-phenyl-1,2,4-thiadiazole

Revision Date 17-Feb-2024

|                                       |                                                                                                                               |
|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Products</b>                       | on waste and hazardous waste. Dispose of in accordance with local regulations.                                                |
| <b>Contaminated Packaging</b>         | Dispose of this container to hazardous or special waste collection point.                                                     |
| <b>European Waste Catalogue (EWC)</b> | According to the European Waste Catalog, Waste Codes are not product specific, but application specific.                      |
| <b>Other Information</b>              | Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains. |

## SECTION 14: TRANSPORT INFORMATION

**IMDG/IMO** Not regulated

14.1. UN number  
14.2. UN proper shipping name  
14.3. Transport hazard class(es)  
14.4. Packing group

**ADR** Not regulated

14.1. UN number  
14.2. UN proper shipping name  
14.3. Transport hazard class(es)  
14.4. Packing group

**IATA** Not regulated

14.1. UN number  
14.2. UN proper shipping name  
14.3. Transport hazard class(es)  
14.4. Packing group

14.5. Environmental hazards No hazards identified

14.6. Special precautions for user No special precautions required.

14.7. Maritime transport in bulk according to IMO instruments Not applicable, packaged goods

## SECTION 15: REGULATORY INFORMATION

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

#### International Inventories

Europe (EINECS/ELINCS/NLP), China (IECSC), Taiwan (TCSI), Korea (KECL), Japan (ENCS), Japan (ISHL), Canada (DSL/NDSL), Australia (AICS), New Zealand (NZIoC), Philippines (PICCS). US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

| Component                         | CAS No     | EINECS | ELINCS | NLP | IECSC | TCSI | KECL | ENCS | ISHL |
|-----------------------------------|------------|--------|--------|-----|-------|------|------|------|------|
| 5-Phenyl-1,2,4-thiadiazol-3-amine | 27182-54-3 | -      | -      | -   | -     | -    | -    | -    | -    |

| Component                         | CAS No     | TSCA | TSCA Inventory notification - Active-Inactive | DSL | NDSL | AICS | NZIoC | PICCS |
|-----------------------------------|------------|------|-----------------------------------------------|-----|------|------|-------|-------|
| 5-Phenyl-1,2,4-thiadiazol-3-amine | 27182-54-3 | -    | -                                             | -   | -    | -    | -     | -     |

**Legend:** X - Listed '-' - Not Listed

**KECL** - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

# SAFETY DATA SHEET

3-Amino-5-phenyl-1,2,4-thiadiazole

Revision Date 17-Feb-2024

Authorisation/Restrictions according to EU REACH

Not applicable

| Component                         | CAS No     | REACH (1907/2006) - Annex XIV - Substances Subject to Authorization | REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances | REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC) |
|-----------------------------------|------------|---------------------------------------------------------------------|-------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| 5-Phenyl-1,2,4-thiadiazol-3-amine | 27182-54-3 | -                                                                   | -                                                                             | -                                                                                                     |

Seveso III Directive (2012/18/EC)

| Component                         | CAS No     | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements |
|-----------------------------------|------------|-------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| 5-Phenyl-1,2,4-thiadiazol-3-amine | 27182-54-3 | Not applicable                                                                            | Not applicable                                                                           |

Regulation (EC) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of dangerous chemicals

Not applicable

Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)?

Not applicable

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work .

## National Regulations

**UK** - Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment

## WGK Classification

Water endangering class = 3 (self classification)

## 15.2. Chemical safety assessment

A Chemical Safety Assessment/Report (CSA/CSR) has not been conducted

## SECTION 16: OTHER INFORMATION

### Full text of H-Statements referred to under sections 2 and 3

H302 - Harmful if swallowed

H312 - Harmful in contact with skin

H332 - Harmful if inhaled

### Legend

**CAS** - Chemical Abstracts Service

**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**IECSC** - Chinese Inventory of Existing Chemical Substances

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List

**ENCS** - Japanese Existing and New Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

# SAFETY DATA SHEET

3-Amino-5-phenyl-1,2,4-thiadiazole

Revision Date 17-Feb-2024

KECL - Korean Existing and Evaluated Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

WEL - Workplace Exposure Limit

ACGIH - American Conference of Governmental Industrial Hygienists

DNEL - Derived No Effect Level

RPE - Respiratory Protective Equipment

LC50 - Lethal Concentration 50%

NOEC - No Observed Effect Concentration

PBT - Persistent, Bioaccumulative, Toxic

TWA - Time Weighted Average

IARC - International Agency for Research on Cancer  
Predicted No Effect Concentration (PNEC)

LD50 - Lethal Dose 50%

EC50 - Effective Concentration 50%

POW - Partition coefficient Octanol:Water

vPvB - very Persistent, very Bioaccumulative

ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road

IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code

OECD - Organisation for Economic Co-operation and Development

BCF - Bioconcentration factor

**Key literature references and sources for data**

<https://echa.europa.eu/information-on-chemicals>

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

ICAO/IATA - International Civil Aviation Organization/International Air Transport Association

MARPOL - International Convention for the Prevention of Pollution from Ships

ATE - Acute Toxicity Estimate

VOC - (Volatile Organic Compound)

## Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.

First aid for chemical exposure, including the use of eye wash and safety showers.

Prepared By

Health, Safety and Environmental Department

Revision Date

17-Feb-2024

Revision Summary

New emergency telephone response service provider.

**This safety data sheet complies with Regulation UK SI 2019/758 and UK SI 2020/1577 as amended.**

## Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of Safety Data Sheet**