

**WASTE**TECH  
ENGINEERING

ATMOS 

# Alternative Daily Cover



# About Atmos

Environment  
is Everything



We are the only full-service environmental solutions company that formulates, designs and manufactures customized products and application equipment to help solve your environmental or sustainability challenges across a broad range of essential end markets and applications.

Our solutions serve:

**Solid waste landfills | Environmental remediation**

**Recycled asphalt | Renewable tire & rubber**

**Sustainable adhesives | Infrastructure protection**

These products and systems result in a tailor-made solutions for almost every application need.

From industry leading technology to on-site service, Atmos' foam technology is the most advanced and cost effective alternative daily cover and odor control solution.

## Atmos Cover ADC

Atmos Technologies' Alternative Daily Cover is a highly engineered system of aqueous foam and application equipment that effectively meets the performance criteria of Subtitle D. The cover material, Atmos Cover ADC, is a non-hardening protein based foam that can be adjusted to last from overnight to over a weekend.

Atmos Cover ADC forms a barrier between the waste and the atmosphere to provide both an immediate and effective barrier to minimise odors, VOC's, disease vectors and blowing litter. It can also be applied directly to liquid surfaces such as lagoons and retention ponds.

### Features:

- |                                 |                                      |                                            |
|---------------------------------|--------------------------------------|--------------------------------------------|
| ✓ Biodegradable                 | ✓ Withstands moderate rainfall       | ✓ No clean-up necessary                    |
| ✓ Non-hazardous                 | ✓ Maintains integrity up to 72 hours | ✓ Easy to use                              |
| ✓ Non-combustible               | ✓ No leachate interference           | ✓ Scavengers cannot see or smell the trash |
| ✓ No ambient temperature limits |                                      |                                            |
| ✓ Consumes no valuable airspace |                                      |                                            |

# Atmos Cover ADC

## The Best Solution for Odor and VOC Control

### The Turn Key Solution

The Atmos setup includes foam concentrate, application equipment, bulk storage, mixing center training and a full maintenance program.

### Cost Effective

No capital investment and no rental fees for equipment. Overall cost lower than other ADCs.

### Zero Lost Airspace

Improves the value of the landfill by extended the useful life and maximises the return on investment.

### Superior Coverage

The foam layer provides superior performance versus other products. The multi-directional spray bars ensure no gaps for shadowing for odors to escape.

### Quick & Easy to Use

Atmos Cover ADC can be applied effectively by a single trained employee; simple daily setup and no clean-up is required.

### Apply in All Temperatures

Improves site operations even under the harshest, cold weather conditions. Withstands snow, moderate rainfall, extreme temperatures, and wind.

## Atmos Cover performs as a soil equivalent cover



#### CONTROL FOUL ODOURS

Atmos Cover ADC forms a complete barrier to odors. The foam forms an impenetrable barrier around the working face.



#### CONTROL BLOWING LITTER

Atmos Cover ADC is holds down the waste to prevent blowing trash.



#### CONTROL FIRE HAZARDS

Atmos Cover ADC is non-combustible. Sites often write it into their fire prevention plan. Our combustibility testing is available upon request.



#### CONTROL DISEASE VECTORS

Atmos Cover ADC forms a barrier that prevents odors or visual attraction. Vectors will not land on, peck at or move into the foam covered area.



#### CONTROL SCAVENGERS

Atmos Cover ADC prevents scavengers' sight or smell of the trash.

# Pneumatic Foam Unit (PFU) 2500

## Big, Quick & Powerful

The self-propelled unit is ideal for sites where quick coverage of large areas is important. The PFU 2500 is self-contained and designed to meet the rugged demands of solid waste landfills and environmental remediation sites. The Atmos Cover ADC is applied by our 12 foot wide, rear-mounted, bi-directional spray bars, hose reels, or front monitor system. A climate controlled safety cab provides the operator with superior safety and comfort while applying the cover. The Atmos ADC system is built for a quick, one-person operation.

The unit includes diesel driven hydraulics, air compressor, rubber tracks and drive assemblies, pump, hoses, solution storage tank, freeze protection and our proprietary foam-generating technology. This unit is designed to operate with Atmos' Bulk Storage & Dilution System (BSD).

### Features:



Durable,  
rubber tracks



CAT ® C-7 Engine  
Maintenance free

#### SPECIFICATIONS

|                   |                                       |
|-------------------|---------------------------------------|
| Solution Tank     | 9463.529 L                            |
| Coverage Rate     | 37-74 Sq. m / Min.                    |
| Size (LxWxH)      | 902.2 cm x 262.1 cm x 332.2 cm        |
| Weight            | 18143.7 kg                            |
| Application       | Spray bars, hose reel, monitor nozzle |
| Freeze Protection | 120 VAC or 230 VAC, 30A, single phase |

# Atmos Cover ADC

## The Alternative Daily Cover

Atmos Cover ADC foam concentrate is a patented formulation that produces a thick, long lasting foam barrier for immediate control of blowing litter, disease vectors, and scavengers when applied to landfills as a daily cover. Atmos Cover ADC is specifically designed for use with Atmos' Bulk Storage and Dilution Centre (BSD) and Morooka-based Pneumatic Foam Unit (PFU). The system provides a Daily Cover capable of lasting 72 hours.



## Features

- Zero PFOS / PFAS
- Biodegradable
- Non-Hazardous
- Non-Combustible
- Use at any ambient temperature

## Benefits

- Consumes zero airspace
- Repels scavengers
- Withstands moderate rainfall
- No clean-up
- No leachate interference

## Applications

The primary application for Atmos Cover ADC is for use as a Daily Cover for Solid Waste Landfills replacing soil, tarps and other ineffective and labour-intensive materials. Atmos Cover ADC provides an immediate and effective barrier between the waste and the atmosphere to minimise working face odors. The product adheres to near-vertical surfaces such as balefills or liquid surfaces such as lagoons and retention ponds.

# Bulk Storage & Dilution Centre (BSD)

## The All-In-One System

Atmos' Bulk Storage & Dilution system is designed to handle bulk tank truck quantities of foam concentrate. The system allows for the foam concentrate to be automatically diluted, metered, and transferred into the on-board solution storage tank of Atmos' Pneumatic Foam Unit. The BSD is designed for use at a solid waste landfill or environmental remediation site. The system is freezeprotected and insulated allowing for optimum use of our Foam Products year-round in any ambient temperature.



## Features

- Insulated and Freeze Protected
- Eliminates drum handling
- One-touch control panel
- Auto on/off

## Benefits

- Easy-to-operate
- Skid-Mounted for easy setup
- Fast product transfer
- No monitoring required during fill time

### SPECIFICATIONS

|                   |                                        |
|-------------------|----------------------------------------|
| Capacity          | 26497.9 L                              |
| Transfer Rate     | 0 - 227.125 Liters per Minute (lpm)    |
| Products          | Atmos Foam Products                    |
| Uses              | Sanitary Landfills / Remediation sites |
| Electrical System | 240 V, 100 amp, single phase           |

# Superior Alternative Daily Cover System

Atmos lowers your risks, protects your workers and improves your profit where it counts, at the landfill site. We do this by providing you the most comprehensive daily cover program, highly engineered and field proven application equipment and world class technical service.

Atmos' ADC System is a highly engineered system of cover material, application equipment and storage and dilution equipment that effectively meets the performance criteria of Subtitle D. The cover material, Atmos Cover ADC, is a non-hardening protein based foam that can be adjusted to last from overnight to over a weekend by changing the dilution ratio and the depth of coverage. The PFU2500 is a self-propelled, single operator, Caterpillar based application unit that will cover a 28,000 ft<sup>2</sup> working face with a single fill in 40 minutes. The BSD7000 storage and dilution system is designed for bulk deliveries of Atmos Cover ADC and connects to the PFU2500 with a single hose. The 6SO7000 automatically dilutes the Atmos Cover ADC concentrate and pumps the desired volume of diluted material to the PFU2500. The PFU2500 uses compressed air to generate 50,000 gallons of foam per fill.

In addition to the PFU2500, Rusmar fabricates trailer mounted foam generations units of various sizes designed to meet the needs of smaller landfills. These units come fitted with either hose reels or turrets for ease of application.

**PROGRAM BENEFITS****VALUE PROVIDED TO LANDFILL OPERATOR**

Superior Coverage

Meets or exceeds all Subtitle D performance criteria

All-Weather Performance

Improves site under the harshest cold weather conditions

Superior Odor Control

Reduces risk of non-compliance fines and enhances “good neighbor” image

Consumes Zero Airspace

Improves value of landfill, extends landfill life and maximizes return on capital

Improves Operator Safety

Creates a safer work environment, minimizes lost time accidents and minimizes workman’s compensation exposures

Enhances Litter Control

Reduces risk of non-compliance fines and enhances “good neighbor” image

Quick Application Time

Reduces overtime, equipment maintenance and improves profitability

Exceptional Dust Control

Reduces risk of noncompliance fines and improves working conditions and worker safety

Consumes Zero Airspace

Improves value of landfill, extends landfill life and maximizes return on capital

Improves Operator Safety

Creates a safer work environment, minimizes lost time accidents and minimizes workman’s compensation exposures

Simple, Easy to Use

Reduces waste, enhances profitability

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Simple, Easy to Use

Reduces waste, enhances profitability



## SOIL EQUIVALENT FOAM AC-667 SE

### SECTION 1. IDENTIFICATION

GHS product identifier SOIL EQUIVALENT FOAM AC667SE

Chemical name Proprietary Surfactant

Other means of Identification Aqueous anionic surfactant mixture

Product type Liquid

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

Product use Aqueous Surfactant.  
Spray application for VOC and Odor control

Area of application Industrial applications

Supplier/Manufacturer CCR Specialty Chemicals (Subs: Rusmar, Inc.)  
17 Campus Blvd., Suite 100  
Newtown Square, PA 19073  
Phone: 1-800-733-3626 or  
610-436-4314

E-mail info@atmos-technologies.com  
Website: www.atmos-technologies.com

Emergency tel. number (with hours of operation) CHEMTREC 800 424 9300

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/mixture

Substance

Chemical name

Proprietary Surfactant

Other means of  
identification

Aqueous anionic surfactant mixture.

CAS number/other identifiers

CAS number

Not available.

Product code

Not available

| Ingredient name        | Other names | %   | CAS number |
|------------------------|-------------|-----|------------|
| Proprietary Surfactant | -           | 100 | -          |

Any concentration shown as a range is to protect confidentiality or is due to batch variation. **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 and hence require reporting in this section.**

## 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. Get medical attention if irritation occurs. |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|            |                                                                                                                               |
|------------|-------------------------------------------------------------------------------------------------------------------------------|
| Inhalation | Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. |
|------------|-------------------------------------------------------------------------------------------------------------------------------|

|              |                                                                                                                                |
|--------------|--------------------------------------------------------------------------------------------------------------------------------|
| Skin contact | Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. |
|--------------|--------------------------------------------------------------------------------------------------------------------------------|

|           |                                                                                                                                                                                                                                                                                                                                             |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ingestion | Wash out mouth with water. 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. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur. |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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

### Potential acute health effects

|             |                                                   |
|-------------|---------------------------------------------------|
| Eye contact | No known significant effects or critical hazards. |
|-------------|---------------------------------------------------|

|            |                                                   |
|------------|---------------------------------------------------|
| Inhalation | No known significant effects or critical hazards. |
|------------|---------------------------------------------------|

Skin contact

No known significant effects or critical hazards.

Ingestion

No known significant effects or critical hazards.

### **Over-exposure signs/symptoms**

Eye contact

No specific data

Inhalation

No specific data

Skin contact

No specific data

Ingestion

No specific data

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

Notes to physician

Treat symptomatically.  
Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments

No specific treatment

Protection of first-aiders

No action shall be taken involving any personal risk or without suitable training.

## SECTION 5. FIRE-FIGHTING MEASURES

### Extinguishing media

Suitable extinguishing

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  
sulfur 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.

## 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. Put on appropriate personal protective equipment. |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                          |                                                                                                                                                                                                          |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| For emergency responders | If specialised 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 nonemergency 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. 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.<br><b>Note: see Section 1 for emergency contact information and Section 13 for waste disposal.</b> |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## SECTION 7. HANDLING AND STORAGE

### Precautions for safe handling

|                     |                                                                   |
|---------------------|-------------------------------------------------------------------|
| Protective measures | Put on appropriate personal protective equipment (see Section 8). |
|---------------------|-------------------------------------------------------------------|

|                                        |                                                                                                                                                                                                                                                                                                                                                 |
|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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 | None |
|------------------------------|------|

|                                  |                                                                                                    |
|----------------------------------|----------------------------------------------------------------------------------------------------|
| 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: safety glasses with side-shields.

### 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.

#### 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 | Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

|                |                                  |
|----------------|----------------------------------|
| Physical state | Liquid. [Clear viscous liquid. ] |
|----------------|----------------------------------|

|       |                     |
|-------|---------------------|
| Color | Translucent. White. |
|-------|---------------------|

|      |           |
|------|-----------|
| Odor | Odorless. |
|------|-----------|

|                |                |
|----------------|----------------|
| Odor threshold | Not available. |
|----------------|----------------|

|    |                |
|----|----------------|
| pH | Not available. |
|----|----------------|

|               |                |
|---------------|----------------|
| Melting point | Not available. |
|---------------|----------------|

|               |                |
|---------------|----------------|
| Boiling point | 99°C (210.2°F) |
|---------------|----------------|

|             |                 |
|-------------|-----------------|
| Flash point | Not applicable. |
|-------------|-----------------|

|                  |                |
|------------------|----------------|
| Evaporation rate | Not available. |
|------------------|----------------|

|                           |                 |
|---------------------------|-----------------|
| Flammability (solid, gas) | Not applicable. |
|---------------------------|-----------------|

|                                              |                |
|----------------------------------------------|----------------|
| Lower and upper explosive (flammable) limits | Not available. |
|----------------------------------------------|----------------|

|                |                                       |
|----------------|---------------------------------------|
| Vapor pressure | 3.3 kPa (25 mm Hg) [room temperature] |
|----------------|---------------------------------------|

|               |                |
|---------------|----------------|
| Vapor density | Not available. |
|---------------|----------------|

|                  |              |
|------------------|--------------|
| Relative density | 1.01 to 1.06 |
|------------------|--------------|

|            |                                                                         |
|------------|-------------------------------------------------------------------------|
| Solubility | Easily soluble in the following materials:<br>cold water and hot water. |
|------------|-------------------------------------------------------------------------|

|                     |                 |
|---------------------|-----------------|
| Solubility in water | Easily soluble. |
|---------------------|-----------------|

|                                     |                |
|-------------------------------------|----------------|
| Partition coefficient:<br>noctanol/ | Not available. |
|-------------------------------------|----------------|

|                           |                |
|---------------------------|----------------|
| Auto-ignition temperature | Not available. |
|---------------------------|----------------|

|                           |                |
|---------------------------|----------------|
| Decomposition temperature | Not available. |
|---------------------------|----------------|

|      |                |
|------|----------------|
| SADT | Not available. |
|------|----------------|

|           |                |
|-----------|----------------|
| Viscosity | 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.<br><br>Under normal conditions of storage and use, hazardous polymerization will not occur. |
|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                     |                      |
|---------------------|----------------------|
| Conditions to avoid | Keep away from heat. |
|---------------------|----------------------|

|                        |                   |
|------------------------|-------------------|
| Incompatible materials | No specific data. |
|------------------------|-------------------|

|                         |                                                                             |
|-------------------------|-----------------------------------------------------------------------------|
| Hazardous decomposition | Low levels of sulfur oxides on exposure to high temperatures (concentrate). |
|-------------------------|-----------------------------------------------------------------------------|

## SECTION 11. TOXICOLOGICAL INFORMATION

### Information on toxicological effects

|                |                |
|----------------|----------------|
| Acute toxicity | Not available. |
|----------------|----------------|

|                    |               |
|--------------------|---------------|
| Conclusion/Summary | Not expected. |
|--------------------|---------------|

|                      |                |
|----------------------|----------------|
| Irritation/Corrosion | Not available. |
|----------------------|----------------|

|               |                |
|---------------|----------------|
| Sensitization | Not available. |
|---------------|----------------|

|                                           |                |
|-------------------------------------------|----------------|
| <b>Mutagenicity</b><br>Conclusion/Summary | Not available. |
|-------------------------------------------|----------------|

|                                              |                |
|----------------------------------------------|----------------|
| <b>Carcinogenicity</b><br>Conclusion/Summary | Not available. |
|----------------------------------------------|----------------|

|                                                    |                |
|----------------------------------------------------|----------------|
| <b>Reproductive toxicity</b><br>Conclusion/Summary | Not available. |
|----------------------------------------------------|----------------|

|                                             |                |
|---------------------------------------------|----------------|
| <b>Teratogenicity</b><br>Conclusion/Summary | Not available. |
|---------------------------------------------|----------------|

|                                                     |                |
|-----------------------------------------------------|----------------|
| Specific target organ<br>toxicity (single exposure) | Not available. |
|-----------------------------------------------------|----------------|

|                                                       |                |
|-------------------------------------------------------|----------------|
| Specific target organ<br>toxicity (repeated exposure) | Not available. |
|-------------------------------------------------------|----------------|

|                   |                |
|-------------------|----------------|
| Aspiration hazard | Not available. |
|-------------------|----------------|

|                                                  |                |
|--------------------------------------------------|----------------|
| Information on the likely<br>routes of exposure) | Not available. |
|--------------------------------------------------|----------------|

#### **Potential acute health effects**

|             |                                                      |
|-------------|------------------------------------------------------|
| Eye contact | No known significant effects or<br>critical hazards. |
|-------------|------------------------------------------------------|

Inhalation

No known significant effects or critical hazards.

Skin contact

No known significant effects or critical hazards.

Ingestion

No known significant effects or critical hazards.

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

Eye contact

No specific data.

Inhalation

No specific data.

Skin contact

No specific data.

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.

### **Long term exposure**

|                             |                |
|-----------------------------|----------------|
| Potential immediate effects | Not available. |
|-----------------------------|----------------|

|                           |                |
|---------------------------|----------------|
| Potential delayed effects | Not available. |
|---------------------------|----------------|

|                                         |                |
|-----------------------------------------|----------------|
| <b>Potential chronic health effects</b> | 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**

|                                 |                |
|---------------------------------|----------------|
| <b>Acute toxicity estimates</b> | Not available. |
|---------------------------------|----------------|

## SECTION 12. ECOLOGICAL INFORMATION

|                           |                |
|---------------------------|----------------|
| Bioaccumulative potential | Not available. |
|---------------------------|----------------|

### Mobility in soil

|                                               |                |
|-----------------------------------------------|----------------|
| Soil/water partition coefficient ( $K_{oc}$ ) | Not available. |
|-----------------------------------------------|----------------|

|                       |                                                   |
|-----------------------|---------------------------------------------------|
| Other adverse effects | No known significant effects or critical hazards. |
|-----------------------|---------------------------------------------------|

## SECTION 13. DISPOSAL CONSIDERATIONS

### Disposal methods

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. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## SECTION 14. TRANSPORT INFORMATION

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

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 73/78 and the IBC Code

Not available.

## SECTION 15. REGULATORY INFORMATION

U.S. Federal regulations

United States inventory (TSCA 8b):  
Not determined.

Clean Air Act Section 112  
(b) Hazardous Air  
Pollutants (HAPs)

Not listed

Clean Air Act Section 602  
Class I Substances

Not listed

Clean Air Act Section 602  
Class II Substances

Not listed

DEA List I Chemicals  
(Precursor Chemicals)

Not listed

DEA List II Chemicals  
(Essential Chemicals)

Not listed

SARA 302/304

Composition/information  
on ingredients

No products were found.

SARA 304 RQ

Not applicable.

SARA 311/312

Classification

Not applicable.

Composition/information  
on ingredients

No products were found.

SARA 313

Not applicable.

## State regulations

Massachusetts

This material is not listed.

New York

This material is not listed.

New Jersey

This material is not listed.

Pennsylvania

This material is not listed.

California Prop. 65

None of the components are listed.

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)

UNECE Aarhus Protocol on  
POPs and Heavy Metals

Not listed.

## SECTION 16. OTHER INFORMATION

### Hazardous Material Information System (U.S.A.)

|                         |          |
|-------------------------|----------|
| <b>Ingredient name</b>  | <b>0</b> |
| <b>Flammability</b>     | <b>0</b> |
| <b>Physical hazards</b> | <b>0</b> |

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDSs under 29 CFR 1910.

1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

### National Fire Protection Association (U.S.A.)



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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

## Procedure used to derive the classification

| Classification | Justification |
|----------------|---------------|
| Not classified |               |

### History

Date of issue /  
Date of revision 11/23/2020

Date of previous issue No previous validation

Version 1

Prepared by IHS

### 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 73/78 = International Convention for  
the Prevention of Pollution From Ships,  
1973 as modified by the Protocol of 1978.  
("Marpol" = marine pollution)  
UN = United Nations

▀ Indicates information that has changed from previously issued version.

### **Notice to reader**

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

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## Our Office Locations

### VIC

29 Technology Circuit  
Hallam VIC 3803  
[service@wastech.com.au](mailto:service@wastech.com.au)

### VIC Head Office

33 Wedgewood Drive  
Hallam VIC 3803  
[info@wastech.com.au](mailto:info@wastech.com.au)

### QLD

Unit 2, 50 Raubers Road  
Banyo QLD 4014  
[service@wastech.com.au](mailto:service@wastech.com.au)

### WA

Unit 1, 2 Trade Road  
Malaga WA 6090  
[service@wastech.com.au](mailto:service@wastech.com.au)

### NSW, SA, NT, TAS, ACT

1300 665 870  
[service@wastech.com.au](mailto:service@wastech.com.au)

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