

## Safety Data Sheet acc. to OSHA HCS

Printing date 03/30/2020

Reviewed on 03/30/2020

### 1 Identification

- **Product identifier**
- **Trade name:** AV.005 HARDENER
- **Article number:** AV.005
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Lusid Technologies  
4725 S Camp Kearns Road  
Kearns, UT 84118  
USA  
www.lusidtechnologies.com
- **Information department:** Product safety department
- **Emergency telephone number:**  
24 Hrs Emergency Contact:  
INFOTRAC  
1-800-535-5053

### 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Flam. Liq. 3 H226 Flammable liquid and vapor.



GHS08 Health hazard

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Carc. 2 H351 Suspected of causing cancer.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

Skin Sens. 1 H317 May cause an allergic skin reaction.

- **Label elements**

- **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

(Contd. on page 2)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 03/30/2020

Reviewed on 03/30/2020

Trade name: AV.005 HARDENER

(Contd. of page 1)

- **Hazard pictograms**



GHS02 GHS08

- **Signal word** Danger

- **Hazard-determining components of labeling:**

4-chloro-alpha,alpha,alpha-trifluorotoluene  
poly(hexamethylene diisocyanate)

- **Hazard statements**

Flammable liquid and vapor.

Causes skin irritation.

Causes serious eye irritation.

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

May cause an allergic skin reaction.

Suspected of causing cancer.

- **Precautionary statements**

Obtain special instructions before use.

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

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Keep container tightly closed.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Avoid breathing dust/fume/gas/mist/vapors/spray

Wash thoroughly after handling.

Contaminated work clothing must not be allowed out of the workplace.

Wear protective gloves/protective clothing/eye protection/face protection.

[In case of inadequate ventilation] wear respiratory protection.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

IF exposed or concerned: Get medical advice/attention.

Specific treatment (see on this label).

Take off contaminated clothing and wash it before reuse.

If skin irritation or rash occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

If experiencing respiratory symptoms: Call a poison center/doctor.

Wash contaminated clothing before reuse.

In case of fire: Use for extinction: CO<sub>2</sub>, powder or water spray.

Store in a well-ventilated place. Keep cool.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Classification system:**

- **NFPA ratings (scale 0 - 4)**



Health = 2

Fire = 2

Reactivity = 0

(Contd. on page 3)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 03/30/2020

Reviewed on 03/30/2020

Trade name: AV.005 HARDENER

(Contd. of page 2)

- **HMIS-ratings (scale 0 - 4)**

|            |   |                |
|------------|---|----------------|
| HEALTH     | 2 | Health = *2    |
| FIRE       | 2 | Fire = 2       |
| REACTIVITY | 0 | Reactivity = 0 |

- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

### 3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of the substances listed below with nonhazardous additions.

- **Dangerous components:**

|            |   |         |
|------------|---|---------|
| 98-56-6    | 4-chloro-alpha,alpha,alpha-trifluorotoluene | 50-100% |
| 28182-81-2 | poly(hexamethylene diisocyanate)            | 25-50%  |

### 4 First-aid measures

- **Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:**  
Supply fresh air and to be sure call for a doctor.  
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:**  
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed**  
No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.

(Contd. on page 4)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 03/30/2020

Reviewed on 03/30/2020

Trade name: AV.005 HARDENER

(Contd. of page 3)

- **Environmental precautions:**  
Dilute with plenty of water.  
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

· **PAC-1:**

|            |                                  |                       |
|------------|----------------------------------|-----------------------|
| 28182-81-2 | poly(hexamethylene diisocyanate) | 7.8 mg/m <sup>3</sup> |
|------------|----------------------------------|-----------------------|

· **PAC-2:**

|            |                                  |                      |
|------------|----------------------------------|----------------------|
| 28182-81-2 | poly(hexamethylene diisocyanate) | 86 mg/m <sup>3</sup> |
|------------|----------------------------------|----------------------|

· **PAC-3:**

|            |                                  |                       |
|------------|----------------------------------|-----------------------|
| 28182-81-2 | poly(hexamethylene diisocyanate) | 510 mg/m <sup>3</sup> |
|------------|----------------------------------|-----------------------|

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Open and handle receptacle with care.  
Prevent formation of aerosols.
- **Information about protection against explosions and fires:**  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.  
Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**  
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
Keep away from foodstuffs, beverages and feed.

(Contd. on page 5)

USA

# Safety Data Sheet

acc. to OSHA HCS

Printing date 03/30/2020

Reviewed on 03/30/2020

Trade name: AV.005 HARDENER

(Contd. of page 4)

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the eyes and skin.

· **Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

## 9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form:

Fluid

Color:

According to product specification

· **Odor:**

Characteristic

· **Odor threshold:**

Not determined.

· **pH-value:**

Not determined (pH N/A in solvent coatings)

· **Change in condition**

Melting point/Melting range:

Undetermined.

Boiling point/Boiling range:

139 °C (282.2 °F)

· **Flash point:**

47 °C (116.6 °F)

· **Flammability (solid, gaseous):**

Not applicable.

· **Decomposition temperature:**

Not determined.

(Contd. on page 6)

USA

# Safety Data Sheet

acc. to OSHA HCS

Printing date 03/30/2020

Reviewed on 03/30/2020

Trade name: AV.005 HARDENER

(Contd. of page 5)

|   |  |
|---|--|
| · <b>Auto igniting:</b>                           | Product is not selfigniting.   |
| · <b>Danger of explosion:</b>                     | Product is not explosive. However, formation of explosive air/vapor mixtures are possible. |
| · <b>Explosion limits:</b>                        |  |
| <b>Lower:</b>                                     | Not determined.  |
| <b>Upper:</b>                                     | Not determined.  |
| · <b>Vapor pressure at 20 °C (68 °F):</b>         | 0 hPa  |
| · <b>Density at 20 °C (68 °F):</b>                | 1.2735 g/cm <sup>3</sup> (10.6274 lbs/gal)   |
| · <b>Relative density</b>                         | Not determined.  |
| · <b>Vapor density</b>                            | Not determined.  |
| · <b>Evaporation rate</b>                         | Not determined.  |
| · <b>Solubility in / Miscibility with Water:</b>  | Fully miscible.  |
| · <b>Partition coefficient (n-octanol/water):</b> | Not determined.  |
| · <b>Viscosity:</b>                               |  |
| <b>Dynamic:</b>                                   | Not determined.  |
| <b>Kinematic:</b>                                 | Not determined.  |
| · <b>Solvent content:</b>                         |  |
| <b>VOC content:</b>                               | 0.00 %<br>0.0 g/l / 0.00 lb/gal  |
| <b>Solids content:</b>                            | 0.0 %  |
| · <b>Other information</b>                        | No further relevant information available.   |

## 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitization:**  
Sensitization possible through inhalation.  
Sensitization possible through skin contact.
- **Additional toxicological information:**  
The product shows the following dangers according to internally approved calculation methods for preparations:

(Contd. on page 7)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 03/30/2020

Reviewed on 03/30/2020

Trade name: AV.005 HARDENER

(Contd. of page 6)

Harmful  
Irritant

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

98-56-6 4-chloro-alpha,alpha,alpha-trifluorotoluene

2B

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

## 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
Water hazard class 2 (Self-assessment): hazardous for water  
Do not allow product to reach ground water, water course or sewage system.  
Danger to drinking water if even small quantities leak into the ground.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

## 14 Transport information

- **UN-Number**
- **DOT, IMDG, IATA** UN1263
- **UN proper shipping name**
- **DOT** Paint mixture
- **IMDG, IATA** PAINT mixture

(Contd. on page 8)

USA

# Safety Data Sheet

acc. to OSHA HCS

Printing date 03/30/2020

Reviewed on 03/30/2020

Trade name: AV.005 HARDENER

(Contd. of page 7)

· **Transport hazard class(es)**· **DOT**

· **Class** 3 Flammable liquids  
 · **Label** 3

· **IMDG, IATA**

· **Class** 3 Flammable liquids  
 · **Label** 3

· **Packing group**  
 · **DOT, IMDG, IATA** III

· **Environmental hazards:**  
 · **Marine pollutant:** No

· **Special precautions for user** Warning: Flammable liquids  
 · **Hazard identification number (Kemler code):** 30  
 · **EMS Number:** F-E, S-E  
 · **Stowage Category** A

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

· **Transport/Additional information:**

· **DOT**  
 · **Quantity limitations** On passenger aircraft/rail: 60 L  
 On cargo aircraft only: 220 L

· **IMDG**  
 · **Limited quantities (LQ)** 5L  
 · **Excepted quantities (EQ)** Code: E1  
 Maximum net quantity per inner packaging: 30 ml  
 Maximum net quantity per outer packaging: 1000 ml

· **UN "Model Regulation":** UN 1263 PAINT MIXTURE, 3, III

## 15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**  
 · **Sara**

· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**

None of the ingredients is listed.

(Contd. on page 9)

USA



# Safety Data Sheet

acc. to OSHA HCS

Printing date 03/30/2020

Reviewed on 03/30/2020

Trade name: AV.005 HARDENER

(Contd. of page 8)

· **TSCA (Toxic Substances Control Act):**

All components have the value ACTIVE.

· **Hazardous Air Pollutants**

None of the ingredients is listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**

98-56-6 4-chloro-alpha,alpha,alpha-trifluorotoluene

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients is listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS02 GHS08

· **Signal word** Danger

· **Hazard-determining components of labeling:**

4-chloro-alpha,alpha,alpha-trifluorotoluene  
poly(hexamethylene diisocyanate)

· **Hazard statements**

Flammable liquid and vapor.

Causes skin irritation.

Causes serious eye irritation.

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

May cause an allergic skin reaction.

Suspected of causing cancer.

· **Precautionary statements**

Obtain special instructions before use.

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

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Keep container tightly closed.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/equipment.

Use only non-sparking tools.

(Contd. on page 10)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 03/30/2020

Reviewed on 03/30/2020

**Trade name: AV.005 HARDENER**

(Contd. of page 9)

Take precautionary measures against static discharge.  
 Avoid breathing dust/fume/gas/mist/vapors/spray  
 Wash thoroughly after handling.  
 Contaminated work clothing must not be allowed out of the workplace.  
 Wear protective gloves/protective clothing/eye protection/face protection.  
 [In case of inadequate ventilation] wear respiratory protection.  
 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
 If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.  
 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 IF exposed or concerned: Get medical advice/attention.  
 Specific treatment (see on this label).  
 Take off contaminated clothing and wash it before reuse.  
 If skin irritation or rash occurs: Get medical advice/attention.  
 If eye irritation persists: Get medical advice/attention.  
 If experiencing respiratory symptoms: Call a poison center/doctor.  
 Wash contaminated clothing before reuse.  
 In case of fire: Use for extinction: CO<sub>2</sub>, powder or water spray.  
 Store in a well-ventilated place. Keep cool.  
 Store locked up.  
 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:** Environment protection department.
- **Contact:** Product Safety Dept.
- **Date of preparation / last revision** 03/30/2020 / 3
- **Abbreviations and acronyms:**  
 IMDG: International Maritime Code for Dangerous Goods  
 DOT: US Department of Transportation  
 IATA: International Air Transport Association  
 ACGIH: American Conference of Governmental Industrial Hygienists  
 EINECS: European Inventory of Existing Commercial Chemical Substances  
 ELINCS: European List of Notified Chemical Substances  
 CAS: Chemical Abstracts Service (division of the American Chemical Society)  
 NFPA: National Fire Protection Association (USA)  
 HMIS: Hazardous Materials Identification System (USA)  
 VOC: Volatile Organic Compounds (USA, EU)  
 PBT: Persistent, Bioaccumulative and Toxic  
 vPvB: very Persistent and very Bioaccumulative  
 NIOSH: National Institute for Occupational Safety  
 OSHA: Occupational Safety & Health  
 TLV: Threshold Limit Value  
 PEL: Permissible Exposure Limit  
 REL: Recommended Exposure Limit  
 Flam. Liq. 3: Flammable liquids – Category 3  
 Skin Irrit. 2: Skin corrosion/irritation – Category 2  
 Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A  
 Resp. Sens. 1: Respiratory sensitisation – Category 1  
 Skin Sens. 1: Skin sensitisation – Category 1  
 Carc. 2: Carcinogenicity – Category 2
- **\* Data compared to the previous version altered.**