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**SECTION 1: IDENTIFICATION OF THE PRODUCT AND OF THE COMPANY**

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**1.1 Product identifiers**

Product Name : ACS Material Covalent Organic Framework-TpPa-1 (COF-TpPa-1)  
Brand : ACS Material LLC  
CAS-No. : 1414350-37-0

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

Identified uses : Laboratory chemicals, Manufacture of substances

**1.3 Details of the supplier of the safety data sheet**

Company : ACS MATERIAL LLC  
959 E Walnut St., Suite 100  
Pasadena, CA 91106  
USA  
Telephone : +1 (866)-227-0656  
Fax : +1 (781)-518-0284

**1.4 Emergency telephone number**

Emergency Phone #: +1 (866)-227-0656

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**SECTION 2: HAZARDS IDENTIFICATION**

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**2.1 Classification of the substance or mixture****GHS Classification**

Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335  
For the full text of the H-Statements mentioned in this Section, see Section 16

**2.2 GHS Label elements, including precautionary statements**

Pictogram



Signal word Warning

Hazard statement(s)

H335 May cause respiratory irritation.

Precautionary statement(s)

P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.

P264 Wash skin thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves/ protective clothing/ eye protection/ face

P304+P340	protection. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312	Call a POISON CENTER or doctor/ physician if you feel unwell.
P337+P313	If eye irritation persists get medical advice/attention.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal plant.

### 2.3 Other hazards

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

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances

Substance name	:	ACS Material Covalent Organic Framework-TpPa-1 (COF-TpPa-1)
Synonyms	:	COF-TpPa-1
CAS-No.	:	1414350-37-0

#### Hazardous components

Component	Concentration	CAS-No.
COF-TpPa-1	≤100%	1414350-37-0

For the full text of the phrases mentioned in this Section, see Section 16.

**Hazardous impurities:** None known.

## SECTION 4: FIRST AID MEASURES

### 4.1 Description of first aid measures

#### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

#### If inhaled

If inhaled, remove to fresh air. If not breathing, give artificial respiration. Consult a physician.

#### In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

#### In case of eye contact

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and consult a physician.

**If swallowed**

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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

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

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

No data available.

**SECTION 5: FIREFIGHTING MEASURES**

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**5.1 Extinguishing media****Suitable extinguishing media**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**5.2 Hazards arising from the substance or mixture**

No data available.

**5.3 Advice for firefighters**

Wear self-contained breathing apparatus for firefighting if necessary.

**5.4 Conditions of flammability**

No data available.

**5.5 Further information**

No data available.

**SECTION 6: ACCIDENTAL RELEASE MEASURES**

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

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

For personal protection see section 8.

**6.2 Environmental precautions**

Do not let product enter drains.

**6.3 Methods and materials for containment and cleaning up**

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

**6.4 Reference to other sections**

For disposal see section 13.

## SECTION 7: HANDLING AND STORAGE

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### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

For precautions see section 2.2.

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

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. If necessary, nitrogen protection and low temperature preservation.

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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### 8.1 Control parameters

#### Components with workplace control parameters

Contains no substances with occupational exposure limit values.

### 8.2 Exposure controls

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

#### Appropriate engineering controls

Use mechanical exhaust or laboratory fumehood to avoid exposure.

#### Personal protective equipment

##### Eye/face protection

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

##### Skin protection

Impervious clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

##### Body Protection

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

##### Respiratory protection

For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved



under appropriate government standards such as NIOSH (US) or CEN (EU).

**Control of environmental exposure**

Do not let product enter drains.

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

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

1) Appearance	Form: Powder
2) Odour	No data available
3) Odour Threshold	No data available
4) pH	No data available
5) Melting point/freezing point	No data available
6) Initial boiling point and boiling range	No data available
7) Flash point	No data available
8) Evaporation rate	No data available
9) Flammability (solid, gas)	No data available
10) Upper/lower flammability or explosive limits	No data available
11) Vapour pressure	No data available
12) Vapour density	No data available
13) Relative density	No data available
14) Water solubility	Insoluble
15) Partition coefficient: n- octanol/water	No data available
16) Auto-ignition temperature	No data available
17) Decomposition temperature	>320 °C
18) Viscosity	No data available
19) Explosive properties	No data available
20) Oxidizing properties	No data available

**9.2 Other safety information**

No data available.

**SECTION 10: STABILITY AND REACTIVITY**

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**10.1 Reactivity**

No data available.

**10.2 Chemical stability**

Stable under recommended storage conditions.

**10.3 Possibility of hazardous reactions**

No data available.

**10.4 Conditions to avoid**

Strong acids, strong alkali

**10.5 Incompatible materials**

Strong acids, strong alkali

**10.6 Hazardous decomposition products**

Hazardous decomposition products formed under fire conditions. - Carbon oxides.

Other decomposition products - No data available.

In the event of fire: see section 5.

**SECTION 11: TOXICOLOGICAL INFORMATION**

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**11.1 Information on toxicological effects****Acute toxicity**

Oral LD50: No data available.

Inhalation LC50: No data available.

Dermal LD50: No data available.

**Skin corrosion/irritation**

No data available.

**Serious eye damage/eye irritation**

No data available.

**Respiratory or skin sensitisation**

No data available.

**Germ cell mutagenicity**

No data available.

**Carcinogenicity**

IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (COF-TpPa-1)

2B - Group 2B: Possibly carcinogenic to humans (COF-TpPa-1)

3 - Group 3: Not classifiable as to its carcinogenicity to humans (COF-TpPa-1)

**Reproductive toxicity**

No data available.

**Specific target organ toxicity - single exposure**

Inhalation - May cause respiratory irritation.

**Specific target organ toxicity - repeated exposure**

No data available.

**Aspiration hazard**

No data available.

**Potential health effects**

**Inhalation**                      May be harmful if inhaled. Causes respiratory tract irritation.  
**Ingestion**                      May be fatal if swallowed.

**Signs and Symptoms of Exposure**

No data available.

**Additional Information**

RTECS: Not available.

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

**SECTION 12: ECOLOGICAL INFORMATION**

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**12.1 Toxicity**

No data available.

**12.2 Persistence and degradability**

No data available.

**12.3 Bioaccumulative potential**

No data available.

**12.4 Mobility in soil**

No data available (COF-TpPa-1).

**12.5 Results of PBT and vPvB assessment**

No data available.

**12.6 Other adverse effects**

No data available.

**SECTION 13: DISPOSAL CONSIDERATIONS**

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**13.1 Waste treatment methods****Product**

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

**Contaminated packaging**

Dispose of as unused product.

**SECTION 14: TRANSPORT INFORMATION**

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**14.1 UN number**

ADR/RID: -                      IMDG: -                      IATA: -

**14.2 UN proper shipping name**

ADR/RID: Not dangerous goods  
MDG: Not dangerous goods  
IATA: Not dangerous goods

**14.3 Transport hazard class(es)**

ADR/RID: - IMDG: - IATA: -

**14.4 Packaging group**

ADR/RID: - IMDG: - IATA: -

**14.5 Environmental hazards**

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

**14.6 Special precautions for user**

No data available

**SECTION 15: REGULATORY INFORMATION**

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

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

**SECTION 16: OTHER INFORMATION**

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**HMIS Rating**

Health hazard: 1

**Chronic Health Hazard:**

Flammability: 0

Physical Hazard: 0

**NFPA Rating**

Health hazard: 1

Fire Hazard: 0

Reactivity Hazard: 0

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