

**E-Series® Catalyst RG-1**

Version 1.0

Revision Date 2022-07-05

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****Product information**

Product Name : E-Series® Catalyst RG-1  
 Material : 1078356, 1070831, 1070922

Use : Chemical intermediate  
 Uses advised against : None known.

**Company** : Chevron Phillips Chemical Company LP  
 Specialty Chemicals  
 10001 Six Pines Drive  
 The Woodlands, TX 77380

**Emergency telephone:****Health:**

866.442.9628 (North America)

1.832.813.4984 (International)

**Transport:**

CHEMTREC 800.424.9300 or 703.527.3887(int'l)

Asia: CHEMWATCH (+612 9186 1132) China: 0532 8388 9090

Mexico CHEMTREC 01-800-681-9531 (24 hours)

South America SOS-Cotec Inside Brazil: 0800.111.767 Outside Brazil: +55.19.3467.1600

Argentina: +(54)-1159839431

EUROPE: BIG +32.14.584545 (phone) or +32.14583516 (telefax)

Austria: VIZ +43 1 406 43 43 (24 hours/day, 7 days/week)

Belgium: 070 245 245 (24 hours/day, 7 days/week)

Bulgaria: +359 2 9154 233

Croatia: +3851 2348 342 (24 hours/day, 7 days/week)

Cyprus: 1401

Czech Republic: Toxicological Information Center +420 224 919 293, +420 224 915 402

Denmark: Danish Poison Center (Giftlinjen): +45 8212 1212

Estonia: BIG +32.14.584545 (phone) or +32.14583516 (telefax)

Finland: 0800 147 111 09 471 977 (24 hours/day)

France: ORFILA number (INRS): + 33 (0) 1 45 42 59 59 (24 hours/day, 7 days/week)

Germany: BIG +32.14.584545 (phone) or +32.14583516 (telefax)

Greece: (0030) 2107793777 (24 hours/day, 7 days/week)

Hungary: +36-80-201-199 (24 hours/day, 7 days/week)

Iceland: 543 2222 (24 hours/day, 7 days/week)

Ireland: BIG +32.14.584545 (phone) or +32.14583516 (telefax)

Italy: BIG +32.14.584545 (phone) or +32.14583516 (telefax)

**E-Series® Catalyst RG-1**

Version 1.0

Revision Date 2022-07-05

Latvia: State Fire and Rescue Service, phone number: 112; Toxicology and Sepsis Clinic Poisoning and Drug Information Center, Hipokrāta 2, Riga, Latvia, LV-1038, phone number +371 67042473. (24 hours.)

Liechtenstein: BIG +32.14.584545 (phone) or +32.14583516 (telefax)

Lithuania: +370 (85) 2362052

Luxembourg: (+352) 8002 5500 (24 hours/day, 7 days/week)

Malta: +356 2395 2000

The Netherlands: NVIC: +31 (0)88 755 8000

Norway: 22 59 13 00 (24 hours/day, 7 days/week)

Poland: BIG +32.14.584545 (phone) or +32.14583516 (telefax)

Portugal: CIAV phone number: +351 800 250 250

Romania: +40213183606

Slovakia: +421 2 5477 4166

Slovenia: Phone number: 112

Spain: National Emergency Telephone Number of Spanish Poison Centre: +34 91 562 04 20 (24 hours/day, 7 days/week)

Sweden: 112 – ask for Poisons Information

Responsible Department : Product Safety and Toxicology Group  
 E-mail address : SDS@CPChem.com  
 Website : www.CPChem.com

**SECTION 2: Hazards identification****Classification of the substance or mixture**

This product has been classified in accordance with the hazard communication standard 29 CFR 1910.1200; the SDS and labels contain all the information as required by the standard.

**Classification**

:

Not a hazardous substance or mixture.

**Labeling**

Not a hazardous substance or mixture.

**Carcinogenicity:****IARC**

No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**NTP**

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

**SECTION 3: Composition/information on ingredients**

Synonyms : Selective Hydrogenation Catalyst  
 raw pyrolysis gas catalyst  
 CPChem E Series  
 Hydrogenation Catalyst  
 FE E-RG-1

**E-Series® Catalyst RG-1**

Version 1.0

Revision Date 2022-07-05

Molecular formula : Mixture

Component	CAS-No.	Weight %
Aluminum Oxide	1344-28-1	99
Silver Oxide	20667-12-3	0.1 - 0.5

**SECTION 4: First aid measures**

- General advice : No hazards which require special first aid measures.
- If inhaled : If unconscious, place in recovery position and seek medical advice. If symptoms persist, call a physician.
- In case of skin contact : If on skin, rinse well with water. Call a physician if irritation develops or persists.
- In case of eye contact : Flush eyes with water as a precaution. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
- If swallowed : Keep respiratory tract clear. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.

**SECTION 5: Firefighting measures**

- Flash point : Not applicable
- Autoignition temperature : No data available
- Unsuitable extinguishing media : High volume water jet.
- Specific hazards during fire fighting : Do not allow run-off from fire fighting to enter drains or water courses.
- Special protective equipment for fire-fighters : Wear self-contained breathing apparatus for firefighting if necessary.
- Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
- Fire and explosion protection : Provide appropriate exhaust ventilation at places where dust is formed.
- Hazardous decomposition products : Metal Oxides.

**E-Series® Catalyst RG-1**

Version 1.0

Revision Date 2022-07-05

**SECTION 6: Accidental release measures**

- Personal precautions : Avoid dust formation.
- Environmental precautions : Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
- Methods for cleaning up : Keep in suitable, closed containers for disposal.

**SECTION 7: Handling and storage****Handling**

- Advice on safe handling : For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Dispose of rinse water in accordance with local and national regulations.
- Advice on protection against fire and explosion : Provide appropriate exhaust ventilation at places where dust is formed.

**Storage**

- Requirements for storage areas and containers : Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Electrical installations / working materials must comply with the technological safety standards.
- Uses advised against : None known.
- Advice on common storage : No materials to be especially mentioned.
- Use : Chemical intermediate

**SECTION 8: Exposure controls/personal protection****Ingredients with workplace control parameters****US**

Components	Basis	Value	Control parameters	Note
Aluminum Oxide	OSHA Z-1	TWA	15 mg/m <sup>3</sup>	total dust
	OSHA Z-1	TWA	5 mg/m <sup>3</sup>	respirable fraction
	OSHA Z-1-A	TWA	10 mg/m <sup>3</sup>	Total dust
	OSHA Z-1-A	TWA	5 mg/m <sup>3</sup>	respirable dust fraction
	ACGIH	TWA	1 mg/m <sup>3</sup>	A4, Respirable particulate matter

A4 Not classifiable as a human carcinogen

**Engineering measures**

Adequate ventilation to control airborne concentrations below the exposure guidelines/limits. Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

**E-Series® Catalyst RG-1**

Version 1.0

Revision Date 2022-07-05

**Personal protective equipment**

- Respiratory protection : Wear a supplied-air NIOSH approved respirator unless ventilation or other engineering controls are adequate to maintain minimal oxygen content of 19.5% by volume under normal atmospheric pressure. Wear a NIOSH approved respirator that provides protection when working with this material if exposure to harmful levels of airborne material may occur, such as: Air-Purifying Respirator for Dusts and Mists / P100. Use a positive pressure, air-supplying respirator if there is potential for uncontrolled release, aerosolization, exposure levels are not known, or other circumstances where air-purifying respirators may not provide adequate protection.
- Hand protection : The suitability for a specific workplace should be discussed with the producers of the protective gloves. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.
- Eye protection : Eye wash bottle with pure water. Safety glasses.
- Skin and body protection : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. Wear as appropriate: Protective suit. Safety shoes.
- Hygiene measures : Wash hands before breaks and at the end of workday.

**SECTION 9: Physical and chemical properties****Information on basic physical and chemical properties****Appearance**

- Form : Pellets
- Physical state : solid
- Color : White to off-white
- Odor : No data available
- Odor Threshold : No data available

**Safety data**

- Flash point : Not applicable
- Lower explosion limit : Not applicable
- Upper explosion limit : Not applicable
- Oxidizing properties : No
- Autoignition temperature : No data available

**E-Series® Catalyst RG-1**

Version 1.0

Revision Date 2022-07-05

Molecular formula	: Mixture
Molecular weight	: Not applicable
pH	: Not applicable
Pour point	: Not applicable
Boiling point/boiling range	: Not applicable
Vapor pressure	: Not applicable
Relative density	: No data available
Density	: 70 - 80 LB/FT3
Water solubility	: Insoluble
Partition coefficient: n-octanol/water	: Not applicable
Viscosity, kinematic	: Not applicable
Relative vapor density	: Not applicable
Evaporation rate	: Not applicable

**SECTION 10: Stability and reactivity**

<b>Reactivity</b>	: Stable under recommended storage conditions.
<b>Chemical stability</b>	: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
<b>Possibility of hazardous reactions</b>	
<b>Hazardous reactions</b>	: Hazardous reactions: Hazardous polymerization does not occur.  Hazardous reactions: Dust may form explosive mixture in air., Reacts violently with water.  Further information: Stable under recommended storage conditions., No hazards to be specially mentioned.
<b>Conditions to avoid</b>	: No data available.
<b>Hazardous decomposition products</b>	: Metal Oxides
<b>Other data</b>	: No decomposition if stored and applied as directed.

**E-Series® Catalyst RG-1**

Version 1.0

Revision Date 2022-07-05

**SECTION 11: Toxicological information****E-Series® Catalyst RG-1****Acute oral toxicity**: Acute toxicity estimate: > 5,000 mg/kg  
Method: Calculation method**E-Series® Catalyst RG-1****Acute inhalation toxicity**: Acute toxicity estimate: > 10 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: Calculation method**E-Series® Catalyst RG-1****Acute dermal toxicity**

: No data available

**E-Series® Catalyst RG-1****Skin irritation**

: No skin irritation

**E-Series® Catalyst RG-1****Eye irritation**

: Product dust may be irritating to eyes, skin and respiratory system.

**E-Series® Catalyst RG-1****Sensitization**: Did not cause sensitization on laboratory animals.  
Information refers to the main ingredient.**Genotoxicity in vitro**

## Aluminum Oxide

: Test Type: Ames test  
Metabolic activation: with and without metabolic activation  
Result: negative**E-Series® Catalyst RG-1****Further information**

: No data available.

**SECTION 12: Ecological information****Toxicity to fish**

## Aluminum Oxide

: NOEC: > 100 mg/l  
Exposure time: 96 h  
Species: Salmo salar (Atlantic salmon)  
Method: OECD Test Guideline 203

## Silver Oxide

LC50: 1.2 µg/l  
Exposure time: 96 h  
Species: Pimephales promelas (fathead minnow)  
semi-static test**Toxicity to daphnia and other aquatic invertebrates**

**E-Series® Catalyst RG-1**

Version 1.0

Revision Date 2022-07-05

Aluminum Oxide : EC50: > 100 mg/l  
 Exposure time: 48 h  
 Species: Daphnia magna (Water flea)  
 Method: OECD Test Guideline 202

Silver Oxide LC50: 0.22 µg/l  
 Exposure time: 48 h  
 Species: Daphnia magna (Water flea)  
 semi-static test

**Toxicity to algae**

Aluminum Oxide : NOEC: > 100 mg/l  
 Exposure time: 72 h  
 Species: Selenastrum capricornutum (algae)  
 Method: OECD Test Guideline 201

Silver Oxide EC10: 0.54 µg/l  
 Exposure time: 24 h  
 Species: Chlamydomonas reinhardtii (green algae)  
 Growth inhibition

**M-Factor**

disilver oxide : M-Factor (Acute Aquat. Tox.) 100  
 M-Factor (Chron. Aquat. Tox.) 100

**Biodegradability**

Aluminum Oxide : The methods for determining biodegradability are not applicable to inorganic substances.

Silver Oxide : The methods for determining biodegradability are not applicable to inorganic substances.

**Bioaccumulation**

Aluminum Oxide : This material is not expected to bioaccumulate.

Silver Oxide : No data available

**Mobility**

Aluminum Oxide : No data available

Silver Oxide : No data available

Additional ecological information : Very toxic to aquatic life with long lasting effects.

**Ecotoxicology Assessment****Short-term (acute) aquatic hazard**

Aluminum Oxide : This material is not expected to be harmful to aquatic organisms.



**E-Series® Catalyst RG-1**

Version 1.0

Revision Date 2022-07-05

- Silver Oxide : Very toxic to aquatic life.
- Long-term (chronic) aquatic hazard  
Aluminum Oxide : This material is not expected to be harmful to aquatic organisms.
- Silver Oxide : Very toxic to aquatic life with long lasting effects.

**SECTION 13: Disposal considerations**

The information in this SDS pertains only to the product as shipped.

Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by US EPA under RCRA (40 CFR 261) or other State and local regulations. Measurement of certain physical properties and analysis for regulated components may be necessary to make a correct determination. If this material is classified as a hazardous waste, federal law requires disposal at a licensed hazardous waste disposal facility.

- Product : The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company.
- Contaminated packaging : Empty remaining contents. Dispose of as unused product. Do not re-use empty containers.

**SECTION 14: Transport information**

**The shipping descriptions shown here are for bulk shipments only, and may not apply to shipments in non-bulk packages (see regulatory definition).**

Consult the appropriate domestic or international mode-specific and quantity-specific Dangerous Goods Regulations for additional shipping description requirements (e.g., technical name or names, etc.) Therefore, the information shown here, may not always agree with the bill of lading shipping description for the material. Flashpoints for the material may vary slightly between the SDS and the bill of lading.

**US DOT (UNITED STATES DEPARTMENT OF TRANSPORTATION)**

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

**IMO / IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)**

UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., (SILVER OXIDE), 9, III, MARINE POLLUTANT, (SILVER OXIDE)

**IATA (INTERNATIONAL AIR TRANSPORT ASSOCIATION)**

UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., (SILVER OXIDE), 9, III

**ADR (AGREEMENT ON DANGEROUS GOODS BY ROAD (EUROPE))**

UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., (SILVER OXIDE), 9, III, (-)

**E-Series® Catalyst RG-1**

Version 1.0

Revision Date 2022-07-05

**RID (REGULATIONS CONCERNING THE INTERNATIONAL TRANSPORT OF DANGEROUS GOODS (EUROPE))**

90, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., (SILVER OXIDE), 9, III

**ADN (EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY INLAND WATERWAYS)**

UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., (SILVER OXIDE), 9, III

**Maritime transport in bulk according to IMO instruments****SECTION 15: Regulatory information****National legislation****SARA 311/312 Hazards** : No SARA Hazards

CERCLA Reportable Quantity : This material does not contain any components with a CERCLA RQ.

SARA 302 Reportable Quantity : This material does not contain any components with a SARA 302 RQ.

SARA 302 Threshold Planning Quantity : This material does not contain any components with a section 302 EHS TPQ.

SARA 304 Reportable Quantity : This material does not contain any components with a section 304 EHS RQ.

SARA 313 Components : The following components are subject to reporting levels established by SARA Title III, Section 313:

: Aluminum Oxide - 1344-28-1

**Clean Air Act**

Ozone-Depletion Potential : This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

**E-Series® Catalyst RG-1**

Version 1.0

Revision Date 2022-07-05

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489).

California Prop. 65 Components : This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

**Notification status**

- |                                     |   |  |
|-------------------------------------|---|--|
| Europe REACH                        | : | A substance or substances in this product is not registered or notified to be registered. Importation or manufacture of this product is still permitted provided that it does not exceed the REACH minimum threshold quantity of the non-regulated substances.   |
| Switzerland CH INV                  | : | On the inventory, or in compliance with the inventory  |
| United States of America (USA) TSCA | : | On or in compliance with the active portion of the TSCA inventory  |
| Canada DSL                          | : | All components of this product are on the Canadian DSL   |
| Other AIIC                          | : | On the inventory, or in compliance with the inventory  |
| New Zealand NZIoC                   | : | Not in compliance with the inventory   |
| Japan ENCS                          | : | On the inventory, or in compliance with the inventory  |
| Korea KECI                          | : | A substance(s) in this product was not registered, notified to be registered, or exempted from registration by CPChem according to K-REACH regulations. Importation or manufacture of this product is still permitted provided the Korean Importer of Record has themselves notified the substance or the exported amount does not exceed the minimum threshold quantity of the non-registered substance(s). |
| Philippines PICCS                   | : | On the inventory, or in compliance with the inventory  |
| Taiwan TCSI                         | : | On the inventory, or in compliance with the inventory  |
| China IECSC                         | : | On the inventory, or in compliance with the inventory  |

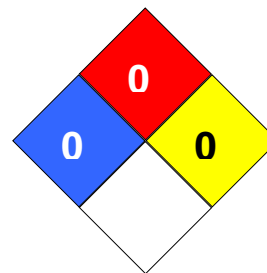
**E-Series® Catalyst RG-1**

Version 1.0

Revision Date 2022-07-05

**SECTION 16: Other information**

**NFPA Classification** : Health Hazard: 0  
Fire Hazard: 0  
Reactivity Hazard: 0

**Further information**

Legacy SDS Number : 659990

Significant changes since the last version are highlighted in the margin. This version replaces all previous versions.

The information in this SDS pertains only to the product as shipped.

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.

Key or legend to abbreviations and acronyms used in the safety data sheet			
ACGIH	American Conference of Government Industrial Hygienists	LD50	Lethal Dose 50%
AICS	Australia, Inventory of Chemical Substances	LOAEL	Lowest Observed Adverse Effect Level
DSL	Canada, Domestic Substances List	NFPA	National Fire Protection Agency
NDSL	Canada, Non-Domestic Substances List	NIOSH	National Institute for Occupational Safety & Health
CNS	Central Nervous System	NTP	National Toxicology Program
CAS	Chemical Abstract Service	NZIoC	New Zealand Inventory of Chemicals
EC50	Effective Concentration	NOAEL	No Observable Adverse Effect Level
EC50	Effective Concentration 50%	NOEC	No Observed Effect Concentration
EGEST	EOSCA Generic Exposure Scenario Tool	OSHA	Occupational Safety & Health Administration
EOSCA	European Oilfield Specialty Chemicals Association	PEL	Permissible Exposure Limit
EINECS	European Inventory of Existing Chemical Substances	PICCS	Philippines Inventory of Commercial Chemical Substances
MAK	Germany Maximum Concentration Values	PRNT	Presumed Not Toxic
GHS	Globally Harmonized System	RCRA	Resource Conservation Recovery Act
>=	Greater Than or Equal To	STEL	Short-term Exposure Limit
IC50	Inhibition Concentration 50%	SARA	Superfund Amendments and Reauthorization Act.
IARC	International Agency for Research on Cancer	TLV	Threshold Limit Value
IECSC	Inventory of Existing Chemical Substances in China	TWA	Time Weighted Average
ENCS	Japan, Inventory of Existing and	TSCA	Toxic Substance Control Act

**E-Series® Catalyst RG-1**

Version 1.0

Revision Date 2022-07-05

	New Chemical Substances		
KECI	Korea, Existing Chemical Inventory	UVCB	Unknown or Variable Composition, Complex Reaction Products, and Biological Materials
<=	Less Than or Equal To	WHMIS	Workplace Hazardous Materials Information System
LC50	Lethal Concentration 50%		