

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/21/2020

Revision date 10/21/2020

1 Identification

- **Product identifier**
- **Trade name:** Transcription Factor PPAR γ Positive Control
- **Synonym** Peroxisome Proliferator-Activated Receptor γ
- **Article number:** 10006881, 006892
- **Application of the substance / the mixture** For research use only, not for human or veterinary use.
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Cayman Chemical Co.
1180 E. Ellsworth Rd.
Ann Arbor, MI 48108
USA
- **Information department:** Product safety department
- **Emergency telephone number:**
During normal opening times: +1 (734) 971-3335
US/CANADA: 800-424-9300
Outside US/CANADA: 703-741-5970

2 Hazard(s) identification

- **Classification of the substance or mixture**
The product is not classified, according to the Globally Harmonized System (GHS).

- **Label elements**
- **GHS label elements** None
- **Hazard pictograms** None
- **Signal word** None
- **Hazard statements** None
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



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



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

US

(Contd. on page 2)

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/21/2020

Revision date 10/21/2020

Trade name: Transcription Factor PPAR γ Positive Control

(Contd. from page 1)

3 Composition/information on ingredients

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

- **Dangerous components:**

CAS: 56-81-5 RTECS: MA8050000	Glycerol	15.0%
----------------------------------	----------	-------

- **Other ingredients**

CAS: 7732-18-5 RTECS: ZC0110000	Water	83.458%
CAS: 67-68-5 RTECS: PV6210000	Dimethyl sulfoxide, anhydrous	0.85%
CAS: 7365-45-9 RTECS: TL6809000	HEPES, free acid	0.238%
CAS: 7447-40-7 RTECS: TS8050000	Potassium chloride	0.186%
CAS: 7791-18-6 RTECS: OM2975000	Magnesium chloride, hexahydrate	0.121%
CAS: 3483-12-3 RTECS: EK1610000	DL-Dithiothreitol	0.047%
CAS: 7681-49-4 RTECS: WB0350000	Sodium fluoride	0.042%
CAS: 819-83-0 RTECS: UA0600000	disodium β -glycerophosphate	0.0216%
CAS: 13721-39-6 RTECS: YW1120000	Sodium orthovanadate	0.0184%
CAS: 68987-90-6	Nonidet P-40	0.01%
	PPAR GAMMA PROTEIN	0.005%
CAS: 30827-99-7 RTECS: DB8877500	AEBSF	0.0024%
CAS: 58970-76-6 RTECS: OH2915000	Ubenimex	0.0002%
CAS: 9087-70-1 RTECS: YN5080000	Aprotinin	0.0001%
CAS: 26305-03-3 RTECS: SC6155000	Pepstatin A	0.0001%
CAS: 66701-25-5 RTECS: RR0390000	2-Oxiranecarboxylic acid, 3-[[[(1S)-1-[[[4-[(aminoiminomethyl)amino]butyl]amino]carbonyl]-3-methylbutyl]amino]carbonyl]-, (2S,3S	0.0001%
CAS: 103476-89-7	Leupeptin hemisulfate salt	0.0001%

4 First-aid measures

- **Description of first aid measures**
- **General information:** No special measures required.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** If symptoms persist consult doctor.

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/21/2020

Revision date 10/21/2020

Trade name: Transcription Factor PPAR γ Positive Control

(Contd. from page 2)

- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed**
May cause anemia, cough, CNS depression, drowsiness, headache, heart damage, lassitude (weakness, exhaustion), liver damage, narcosis, reproductive effects, teratogenic effects.
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:**
CO₂, 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** Not required.
- **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).
- **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:**

56-81-5	Glycerol	45 mg/m ³
67-68-5	Dimethyl sulfoxide, anhydrous	150 ppm
7365-45-9	HEPES, free acid	30 mg/m ³
7791-18-6	Magnesium chloride, hexahydrate	34 mg/m ³
7681-49-4	Sodium fluoride	17 mg/m ³
13721-39-6	Sodium orthovanadate	0.016 mg/m ³

· **PAC-2:**

56-81-5	Glycerol	180 mg/m ³
67-68-5	Dimethyl sulfoxide, anhydrous	290 ppm
7365-45-9	HEPES, free acid	330 mg/m ³
7791-18-6	Magnesium chloride, hexahydrate	370 mg/m ³
7681-49-4	Sodium fluoride	90 mg/m ³
13721-39-6	Sodium orthovanadate	0.18 mg/m ³

· **PAC-3:**

56-81-5	Glycerol	1,100 mg/m ³
67-68-5	Dimethyl sulfoxide, anhydrous	1,800 ppm
7365-45-9	HEPES, free acid	2,000 mg/m ³

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/21/2020

Revision date 10/21/2020

Trade name: Transcription Factor PPAR γ Positive Control

(Contd. from page 3)

7791-18-6	Magnesium chloride, hexahydrate	1,600 mg/m ³
7681-49-4	Sodium fluoride	1,100 mg/m ³
13721-39-6	Sodium orthovanadate	130 mg/m ³

7 Handling and storage

- **Handling:**
- **Precautions for safe handling** No special measures required.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
Keep container tightly closed.
Store in accordance with information listed on the product insert.
- **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:** None.
- **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:**

56-81-5 Glycerol

PEL	Long-term value: 15* 5** mg/m ³ mist; *total dust **respirable fraction
TLV	TLV withdrawn-insufficient data human occup. exp.

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
The usual precautionary measures for handling chemicals should be followed.
- **Breathing equipment:** Not required.
- **Protection of hands:**
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.

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/21/2020

Revision date 10/21/2020

Trade name: Transcription Factor PPAR γ Positive Control

(Contd. from page 4)

· Eye protection: Goggles recommended during refilling.

9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

Form:	Liquid
Color:	According to product specification
· Odor:	Characteristic
· Odor threshold:	Not determined.

· pH-value at 20 °C (68 °F): 7.9

· Change in condition

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	100 °C (212 °F)

· Flash point: 95 °C (203 °F)

· Flammability (solid, gaseous): Not applicable.

· Decomposition temperature: Not determined.

· Auto igniting: Product is not selfigniting.

· Danger of explosion: Product does not present an explosion hazard.

· Explosion limits:

Lower:	Not determined.
Upper:	Not determined.

· Vapor pressure at 20 °C (68 °F): 23 hPa (17.3 mm Hg)

· Density: Not determined.

· Relative density: Not determined.

· Vapor density: Not determined.

· Evaporation rate: Not determined.

· Solubility in / Miscibility with

Water: Fully miscible.

· Partition coefficient (n-octanol/water): Not determined.

· Viscosity:

Dynamic:	Not determined.
Kinematic:	Not determined.

· Solvent content:

Organic solvents:	15.9 %
Water:	83.5 %
VOC content:	0.85 %
	8.5 g/l / 0.07 lb/gal

Solids content: 0–16 %

· Other information: No further relevant information available.

US

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/21/2020

Revision date 10/21/2020

Trade name: Transcription Factor PPAR γ Positive Control

(Contd. from page 5)

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:**

- **LD/LC50 values that are relevant for classification:**

56-81-5 Glycerol

Oral	LD50	12,600 mg/kg (rat)
Irritation of skin	Irritation	500 mg/24h (rabbit)
Irritation of eyes	Irritation	500 mg/24h (rabbit)
	Intraperitoneal LD50	4,420 mg/kg (rat)
	Subcutaneous LD50	100 mg/kg (rat)

- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
The product is not subject to classification according to internally approved calculation methods for preparations:
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

- **Carcinogenic categories**

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

7681-49-4 Sodium fluoride

3

- **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.

(Contd. on page 7)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/21/2020

Revision date 10/21/2020

Trade name: Transcription Factor PPAR γ Positive Control

(Contd. from page 6)

- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **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:** Smaller quantities can be disposed of with household waste.
- **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 | not regulated |
| · UN proper shipping name | |
| · DOT, IMDG, IATA | not regulated |
| · Transport hazard class(es) | |
| · DOT, ADN, IMDG, IATA | |
| · Class | not regulated |
| · Packing group | |
| · DOT, IMDG, IATA | not regulated |
| · Environmental hazards: | Not applicable. |
| · Special precautions for user | Not applicable. |
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| · UN "Model Regulation": | not regulated |

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 8)

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/21/2020

Revision date 10/21/2020

Trade name: Transcription Factor PPAR γ Positive Control

(Contd. from page 7)

· TSCA (Toxic Substances Control Act):		
7732-18-5	Water	ACTIVE
56-81-5	Glycerol	ACTIVE
67-68-5	Dimethyl sulfoxide, anhydrous	ACTIVE
7365-45-9	HEPES, free acid	ACTIVE
7447-40-7	Potassium chloride	ACTIVE
3483-12-3	DL-Dithiothreitol	ACTIVE
7681-49-4	Sodium fluoride	ACTIVE
819-83-0	disodium β -glycerophosphate	ACTIVE
13721-39-6	Sodium orthovanadate	ACTIVE
68987-90-6	Nonidet P-40	ACTIVE
· Hazardous Air Pollutants		
None of the ingredients is listed.		
· Proposition 65		
· Chemicals known to cause cancer:		
None of the ingredients is listed.		
· 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)		
7681-49-4	Sodium fluoride	A4
· NIOSH-Ca (National Institute for Occupational Safety and Health)		
None of the ingredients is listed.		
· 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:** -
- **Date of preparation / last revision** 10/21/2020 / -
- **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)

(Contd. on page 9)

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/21/2020

Revision date 10/21/2020

Trade name: Transcription Factor PPAR γ Positive Control

(Contd. from page 8)

VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
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

· * **Data compared to the previous version altered.**

US