Safety Data Sheet

Taurus TX1-I- Activator

Revision date: 05.08.2025

Section 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier: Taurus TX1-I Activador

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

Use of the substance/mixture

Taurus Polymer Composite. To be mixed with Taurus TX1-I - Base to provide protection in corrosive environments.

Uses advised against

No information available

1.3. Details of the supplier of the safety data sheet

Company name: Taurus Epoxy, Inc.
Street: 4450 NW 126th Ave. Suite 107. Coral Springs, FL 33065 USA
Telephone: +1 (561) 757-5620
e-mail: taurus@taurusepoxy.com
Internet: www.taurusepoxy.com

1.3. Emergency telephone number: +1 (561) 757-5620

Section 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No. 1272/2008

Hazard categories:
Skin corrosion/irritation: Skin Irrit. 2
Respiratory or skin sensitization: Skin Sens. 1
Hazardous to the aquatic environment: Aquatic Chronic 2
Hazard Statements:
Causes skin irritation.
May cause an allergic skin reaction.
Toxic to aquatic life with long lasting effects.

2.2. Label elements

Regulation (EC) No. 1272/2008

Signal word: Danger

Pictograms:



Hazard statements
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H412 Harmful to aquatic life with long lasting effects.
Precautionary statements
Prevention:
P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink, or smoke when using this product.
P272 Contaminated work clothing must not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.
P363 Wash contaminated clothing before reuse.
Storage:
P405 Store locked up.
Disposal:
P501 Dispose of contents/container to an approved facility in accordance with local, regional, national, and international regulations.

2.3. Other hazards
This product is classified as hazardous as defined within the GHS OSHA Hazard Communication Standard 29CFR1910. 1200.The safety and health hazards are detailed separately for Activator and Base. The final cured material is considered nonhazardous. Upon machining, refer to the precautions in the safety data sheets for Activator and Base.

Section 3: Composition/information on ingredients

3.1 Substances
N/A
3.2 Mixtures

Component	CAS Number	Composition
Benzyl alcohol	100-51-6	1-25%
3-aminomethyl-3,5,5- trimethylcyclohexylamine	2855-13-2	1-5%
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3- epoxypropane, reaction products with mphenylenebis(methylamine)	110839-13-9	5-20%
m-phenylenebis(methylamine)	1477-55-0	1-5%

Silicones and Siloxanes	677762-90-7	1-5%
3-Glycidoxypropyltrimethoxysilane	2530-83-8	1-5%
Bauxite	92797-42-7	20-60%

Amounts specified are typical and do not represent a specification. Remaining components are proprietary, non-hazardous, and/or present at amounts below reportable limits. Exact percentage values for components are proprietary in accordance with 29 CFR 1910.1200(i).
Occupational exposure limits, if available, are listed in Section 8.

Section 4: First aid measures

4.1. Description of first aid measures

General Information
Change contaminated, saturated clothing. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).
After inhalation
In case of inhalation move person to fresh air and keep at rest in a position comfortable for breathing; if breathing is irregular, provide artificial respiration; if there are breathing difficulties, administer oxygen; get medical attention.
After contact with skin
After contact with skin, wash immediately with plenty of water and soap. Seek medical advice immediately.
Do not wash with: Solvents/Thinner
After contact with eyes
Bathe the eye with running water for at least 15 minutes, lifting upper and lower eyelids, then consult an ophthalmologist immediately.
After ingestion
If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention.
Do NOT induce vomiting

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

Harmful if swallowed and if inhaled; can cause severe skin burns and eye damage; sensitizer.

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

First Aid, decontamination, treatment of symptoms.
Eye wash stations and emergency showers should be available.

Section 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media
Dry extinguishing powder. Carbon dioxide (CO_2). alcohol resistant foam. Water spray jet
Unsuitable extinguishing media
Full water jet

5.2. Special hazards arising from the substance or mixture

Exposure to decomposition products may be harmful to health; combustion products may include but are not limited to: carbon monoxide, carbon dioxide, nitrogen oxides; the formation of hydrocarbon fragments is possible in the initial stages of fire (especially in between 400°C and 700°C); smoke may contain particles of the original material as well.

5.3. Advice for firefighters

Use protective firefighting clothing and positive pressure self-contained breathing apparatus to protect against potential harmful and/or irritating fumes. Move containers from fire area if you do it without risk. Dike fire control water for later disposal; prevent runoff from entering drains. Cool fire exposed containers with water stream. Do not use high volume water jet on the fire as this may spread the area of the fire. Co-ordinate fire-fighting measures to the fire surroundings.

Additional information: Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment, and emergency procedures

Isolate area; ensure adequate ventilation; use appropriate personal protection equipment; avoid breathing mist, vapors, spray; avoid contact with skin, eyes, and clothing; keep unnecessary and unprotected personnel from entering the involved area. Local authorities should be advised if significant spillages cannot be contained.

6.2. Environmental precautions

Do not allow to enter surface water or drains. Cover drains. Adverse environmental effects

6.3. Methods and material for containment and cleaning up

Soak up with sand, earth, diatomaceous earth, or other suitable inert absorbent material (e.g. sand, diatomaceous earth, acid- or universal binding agents); collect into suitable waste disposal containers. Reuse uncontaminated material when possible. Wash spillage site with large amounts of water. Dispose of in accordance with applicable local and federal environmental control laws and regulations

6.4. Reference to other sections

See protective measures under point 7 and 8. Disposal: see section 13

Section 7: Handling and storage

7.1. Precautions for safe handling

Ensure adequate ventilation. Prevent inhalation of vapor, ingestion, and contact with skin, eyes, and clothing. Keep containers closed when not in use. Precautions apply to empty containers as well. Do not eat, drink, or smoke in the work area. Wash thoroughly after handling. Personal protective equipment must be worn during maintenance or repair of mixers, reactors or other equipment containing the material.Advice on protection against fire and explosion: Keep away from sources of heat (e.g. hot surfaces), sparks and open flames.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed in a cool, well-ventilated place. Keep/Store only in original container. Store away from foodstuffs and all incompatible material. Keep container tightly closed when not in use.

Further information on storage conditions

Keep away from: Frost, Heat and Humidity

Incompatibilities: Do not store together with strong oxidizing agents.

7.3. Specific end use(s)

No information available.

Section 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits: None assigned

The AIHA recommended WEEL (workplace environmental exposure level) for Benzyl alcohol is 10 ppm (8h-TWA) (45 mg/m3).

8.1.2 Recommended monitoring procedures

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference can be made to European Standard EN 689 for methods for the assessment of exposure by inhalation to chemical agents for the determination of hazardous substances.

8.2. Exposure controls

Appropriate engineering controls

Provide adequate ventilation as well as local exhaustion at critical locations

Protective and hygiene measures

Work in well-ventilated zones or use proper respiratory protection. Only wear fitting, comfortable and clean protective clothing. Avoid contact with skin, eyes, and clothes. Wash hands and face before breaks and after work and take a shower if necessary.

Eye/face protection

Suitable eye protection: Eyeglasses with side protection (goggles). Refer to OSHA Standard 29CFR1910.133 and European Standard EN166.

Hand protection

Use protective gloves. It can be NBR (Nitrile rubber) or Butyl caoutchouc (butyl rubber).

Skin protection

Wear impervious clothing as necessary to protect against product contact. Necessity for boots, apron, face shield, etc. will be dependent on any hazards presented in the work process. Refer to CFR1910.132 and CFR1910.136 for OSHA approved standards on protective clothing and footwear.

Respiratory protection

Usually no personal respiratory protection necessary. If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn. Combination filtering device (EN 14387) A-P3. Self-contained respirator (breathing apparatus) (DIN EN 133).

Other Protective Equipment: The type and degree of personal protective equipment appropriate will depend on the specific work operation. Eye wash stations and emergency showers should be available. Inspect and replace personal protective equipment at regular intervals: use professional care in their selection, use and care.

8.3 Environmental exposure controls

Observe all precautions to prevent contamination of soil and waterways.

Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

9.1.1 General information:

Appearance: Viscous Liquid
Color: Grey/White
Type of Odor: Mild amine-like
Odor Threshold: No data available

9.1.2 Important health, safety, and environmental information:

Boiling Point: >205°C (>401°F)
Melting Point: No data available
Flammability Classification: Not applicable
Flash Point: >117°C (>243°F) (cc)
Autoignition Temperature: No data available
Decomposition Temperature: No data available
Flammability Limits (lower/upper): No data available
Vapor Pressure: No data available

Vapor Density (Air=1): No data available
Evaporation Rate (BuAc=1): No data available
Specific Gravity: 1.52
Water Solubility: Partially soluble
pH: No data available
Viscosity: 2500-7000 cp @ 25°C
Explosive Properties: Not explosive
Oxidizing Properties: Not determined
Molecular Formula: (mixture)
VOC Content: <1%

9.2. Other information No information available

Section 10: Stability and reactivity

10.1. Reactivity
No dangerous reaction is known under normal use and storage conditions.
10.2. Chemical stability
Does not decompose when used for intended uses. No known hazardous decomposition products
10.3. Possibility of hazardous reactions
Mixtures with strongly acidic materials may produce an exothermic reaction.
10.4. Conditions to avoid
Keep away from sources of heat (e.g. hot surfaces), sparks and open flames.
10.5. Incompatible materials
Acids, oxidizing agents, epoxies, isocyanates.
10.6. Hazardous decomposition products
Does not decompose when used for intended uses
Thermal decomposition will generate carbon monoxide, carbon dioxide and nitrogen oxides.

Section 11: Toxicological information

11.1. Information on toxicological effects
Acute Oral Toxicity: LD50(rat): 690 mg/kg (ATE)
Acute Dermal Toxicity: LD50(rabbit): 2188 mg/kg (ATE)
Acute Inhalation Toxicity: LD50(rabbit): >900 mg/m3 (Salicylic acid)
Skin Corrosion/Irritation: Draize Test: Rabbit/skin: Irritating
Serious Eye Damage/Irritation: Draize Test: Rabbit/eye: Irritating
Skin Sensitization (guinea pig): Sensitizer
Germ Cell Mutagenicity: Not classified as mutagenic
Carcinogenicity: Not classified as carcinogenic. Not listed by OSHA/NTP/IARC.
Reproductive Toxicity: Not classified as a reproductive toxicant
Specific Target Organ Toxicity - single exposure (STOT-se): Product not classified based on available data.
Specific Target Organ Toxicity - repeated exposure (STOT-re): May cause damage to the liver and skeletal muscles through prolonged or repeated oral exposure.
NOAEL: (oral, rat): 15 mg/kg body weight per day.
Aspiration Hazard: Aspiration occurring while vomiting may cause lung damage.
Potential Health Effects:
Skin Contact: May cause irritation, itching, reddening, inflammation; may be absorbed through the skin win CNS effects; may cause an allergic reaction.
Eye Contact: Causes serious eye damage; vapors are irritating and may cause damage to the eyes; contact may cause severe burns and permanent eye damage including blindness.

Ingestion: Harmful if swallowed; may cause severe and permanent damage to mouth, throat, and stomach; mat lead to perforation of the intestine.
Inhalation: Harmful if inhaled; may cause severe irritation to the respiratory tract; may cause CNS symptoms including headache, nausea, mental confusion, blurred vision, fatigue, dizziness, and loss of coordination; prolonged overexposure may cause respiratory failure.
Chronic Health Effects:
Skin sensitizer: once sensitized, a severe allergic reaction may occur when subsequently exposed to extremely low levels. After repeated high-dose oral exposure the substance causes adverse effects to the liver, kidneys.
Additional Data:
RTECS No. GV5020833 (PACM)
RTECS No. DN3150000 (Benzyl alcohol)
RTECS No. VO0525000 (Salicylic acid)

Section 12: Ecological information

12.1. Toxicity
12.1.1 Acute/prolonged toxicity to fish
LC50(freshwater fish) (96-hr): 10 mg/l (ATE)
12.1.2 Acute/prolonged toxicity to aquatic invertebrates
EC50(Daphnia magna) (48-hr): 10 mg/l (ATE)
12.1.3 Acute/prolonged toxicity to aquatic plants
EC50(algae)(72-hr): 16 mg/l (ATE)
12.1.4 Toxicity to bacteria, to soil dwelling organisms and to terrestrial plants
No data available
12.1.5 Chronic toxicity to aquatic organisms
Long lasting adverse effects to aquatic organisms.
12.1.6 General effect
Harmful to aquatic life with long lasting effects.

12.2 Persistence and degradability
Not readily biodegradable.
12.3 Bio accumulative potential
No data available
12.4 Mobility in soil
No data available; do not allow product to enter soil/subsoil.
12.5 Results of PBT and vPvB assessment (EC reg. 453/2010)
Product not classified as Persistent, Bioaccumulative and Toxic
Product not classified as very Persistent or very Bio accumulative
The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.
12.6 German WGK classification
WGK = 1 (self-assessment)

12.7 Other adverse effects
Neutralization may be required before discharging to wastewater treatment plants.

Section 13: Disposal considerations

13.1. Waste treatment methods
Advice on disposal
Dispose of waste according to applicable legislation. Do not dump to ground, sewers, or watercourses. Incinerate or otherwise dispose of in compliance with all applicable federal, state, and local environmental control laws and regulations. Waste characterization according to RCRA guidelines and compliance with applicable laws are the responsibility solely of the waste generator.

Contaminated packaging

Non-contaminated packages may be recycled. Dispose of waste according to applicable legislation.

Section 14: Transport information

14.1 Shipping description

Non-Hazardous Material
Unregulated
DOT Proper Shipping Description: Not regulated
IMDG: Not regulated
IATA: Not regulated

Section 15: Regulatory information

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

SARA Title III Section 311/312 (40CFR370): Acute toxicity, Skin corrosion or irritation, serious eye damage or eye irritation
SARA Title III Section 313 (40CFR372): No reportable components
CERCLA Status (40CFR302): No reportable components (Release of a hazardous substance into the environment in an amount that equals or exceeds its reportable quantity (RQ) requires notification to the National Response Center at 800-424-8802.)
RCRA Status (40CFR261): Not listed
OSHA/NTP/IARC Carcinogen Status: Not listed
TSCA Inventory Status: Reported/included
Canadian DSL Status: Reported/included
Canadian WHMIS Status: D2B, E
Chemicals Known to the State of California to Cause Cancer or Reproductive Toxicity: None known to be in the product at levels requiring a warning.
REACH Annex XIV (SVHC)
No listed components
REACH Annex XVII (Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures, and articles)
No listed components
REACH Status (EC 1907/2006): This material has been registered, pre-registered or is otherwise exempted from registration under the Registration, Evaluation and Authorization of Chemical Substances**.**

15.2. Chemical safety assessment

Not available



Section 16: Other information

HMIS ratings:
Health: 2
Flammability: 1
Reactivity: 0
(Personal protective equipment selection is best assigned by the user after performing a hazard assessment on the product as it is to be used in the specific work process.)

National chemical inventories - All components of this product are listed on the following chemical substance inventories:
TSCA (USA)
DSL (Canada)
EINECS (Europe)
ENCS (Japan)
ECL (Korea)

Taurus Epoxy, Inc.
4450 NW 126th Ave. Suite 107. Coral Springs, FL 33065 USA
Phone: (561) 757 – 5620
E-mail: taurus@taurusepoxy.com
Website: www.taurusepoxy.com

AICS (Australia)
PICCS (Philippines)
IECSC (China)
NZIoC (New Zealand)

Abbreviations and acronyms:
ADR: Accord European sur le transport des merchandises dangerousness par Route
(European Agreement concerning the International Carriage of Dangerous Goods by Road)
ACGIH American Conference of Governmental Industrial Hygienists
AICS Australian Inventory of Chemical Substances
AIHA American Industrial Hygiene Association
ATE Acute toxicity estimate
RID: Règlement international conernat le transport des merchandises dangerousness par chemin de fer
(Regulations Concerning the International Transport of Dangerous Goods by Rail)
IMDG: International Maritime Code for Dangerous Goods
BfR Bundesinstitut für Risikobewertung recommendations for food contact materials
BCF Bioconcentration Factor
CAS: Chemical Abstracts Service (division of the American Chemical Society)
CERCLA Comprehensive Environmental Response, Compensation and Liability Act
CLP: Regulation on Classification, Labelling and Packaging of Substances and Mixtures
DOT Department of Transportation
DNEL: Derived No Effect Level
DSL Domestic Substances List
EINECS European Inventory of Existing Chemical Substances
ECL Existing Chemicals List (Korea)
EC50: Effective concentration, 50 percent
ENCS Existing and New Chemical Substances Inventory (Japan)
EN 689 Workplace atmospheres – Guidance for the assessment of exposure by inhalation to
chemical agents for comparison with limit values and measurement strategy
ERG Emergency Response Guide
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
HMIS Hazardous Materials Information System
IARC International Agency for Research on Cancer
IATA: International Air Transport Association
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organization
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
IDLH Immediately Dangerous to Life and Health
IMDG International Maritime Dangerous Goods
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
MAK Maximale Arbeitsplatz Konzentration
NOAEL No observable adverse effect level
NTP National Toxicology Program
OEL Occupational Exposure Limit
OSHA Occupational Safety & Health Administration
PBT Persistent, Bioaccumulative and Toxic
PNEC: Predicted No Effect Concentration
vPvB: very Persistent and very Bioaccumulative
PEL Permissible exposure limit

REACH Registration, evaluation, and authorization of chemical substances
RID International carriage of dangerous goods by Rail
SARA Superfund Amendments and Reauthorization Act
STEL Short Term Exposure Limit
SVHC Substance of Very High Concern
TLV Threshold Limit Value
TSCA Toxic Substances Control Act
TWA Time Weighted Average
VOC Volatile organic compound
WEEL Workplace Environmental Exposure Level
WGK Wassergefahrdungsklasse (Water Hazard Class)
WHMIS Workplace Hazardous Material Identification System

DISCLAIMER

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Safety Data Sheet

Taurus TX1-I –Base

Revision date: 05.08.2025

Section 1: Identification of the substance/mixture and of the company/undertaking

1.4. Product identifier: Taurus TX1-I Base

1.5. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture

Taurus Polymer Composite. To be mixed with Taurus TX1-I - Activator to provide protection in corrosive environments.

Uses advised against

No information available

1.3. Details of the supplier of the safety data sheet

Company name: Taurus Epoxy, Inc.
Street: 4450 NW 126th Ave. Suite 107. Coral Springs, FL 33065 USA
Telephone: +1 (561) 757-5620
e-mail: taurus@taurusepoxy.com
Internet: www.taurusepoxy.com

1.3 Emergency telephone number: +1 (561) 757-5620

Section 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No. 1272/2008

Hazard categories:
Skin corrosion/irritation: Skin Irrit. 2
Respiratory or skin sensitization: Skin Sens. 1
Hazardous to the aquatic environment: Aquatic Chronic 2
Hazard Statements:
Causes skin irritation.
May cause an allergic skin reaction.
Toxic to aquatic life with long lasting effects.

2.2. Label elements

Regulation (EC) No. 1272/2008

Signal word: Warning

Pictograms:



Hazard statements

H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

P261 Avoid breathing mist/vapors/spray.
P264 Wash hands and skin contact areas thoroughly after handling.
P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves / eye protection / face protection.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing.
P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.
P337 + P313 If eye irritation persists: Get medical advice/attention.
P362 Take off contaminated clothing and wash before reuse.
P391 Collect spillage.
P501 Dispose of contents/container through a waste management company authorized by the local government.

2.3. Other hazards

This product is classified as hazardous as defined within the GHS OSHA Hazard Communication Standard 29CFR1910. 1200.The safety and health hazards are detailed separately for Activator and Base. The final cured material is considered nonhazardous. Upon machining, refer to the precautions in the safety data sheets for Activator and Base.

Section 3: Composition/information on ingredients

3.1 Substances

N/A

3.2 Mixtures

Component	CAS Number	Composition
Bisphenol A Resin	1675-54-3	30-80%
Silicones and Siloxanes	677762-90-7	1-5%
Iron Oxide	1317-61-9	1-5%
3-Glycidoxypropyltrimethoxysilane	2530-83-8	1-5%
Bauxite	92797-42-7	30-60%

Amounts specified are typical and do not represent a specification. Remaining components are proprietary, non-hazardous, and/or present at amounts below reportable limits. Exact percentage values for components are proprietary in accordance with 29 CFR 1910.1200(i).

Occupational exposure limits, if available, are listed in Section 8.

Section 4: First aid measures

4.1. Description of first aid measures

General Information

Change contaminated, saturated clothing. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

After inhalation
In case of inhalation move person to fresh air and keep at rest in a position comfortable for breathing; if breathing is irregular, provide artificial respiration; if there are breathing difficulties, administer oxygen; get medical attention.
After contact with skin
After contact with skin, wash immediately with plenty of water and soap. Seek medical advice immediately.
Do not wash with: Solvents/Thinner
After contact with eyes
Bathe the eye with running water for at least 15 minutes, lifting upper and lower eyelids, then consult an ophthalmologist immediately.
After ingestion
If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention.
Do NOT induce vomiting

4.2. Most important symptoms and effects, both acute and delayed
Harmful if swallowed and if inhaled; can cause severe skin burns and eye damage; sensitizer.

4.3. Indication of any immediate medical attention and special treatment needed
First Aid, decontamination, treatment of symptoms.
Eye wash stations and emergency showers should be available.

Section 5: Firefighting measures

5.1. Extinguishing media
Suitable extinguishing media
Dry extinguishing powder. Carbon dioxide (CO_2). alcohol resistant foam. Water spray jet
Unsuitable extinguishing media
Full water jet

5.2. Special hazards arising from the substance or mixture
Exposure to decomposition products may be harmful to health; combustion products may include but are not limited to: carbon monoxide, carbon dioxide, nitrogen oxides; the formation of hydrocarbon fragments is possible in the initial stages of fire (especially in between 400°C and 700°C); smoke may contain particles of the original material as well.

5.3. Advice for firefighters
Use protective firefighting clothing and positive pressure self-contained breathing apparatus to protect against potential harmful and/or irritating fumes. Move containers from fire area if you do it without risk. Dike fire control water for later disposal; prevent runoff from entering drains. Cool fire exposed containers with water stream. Do not use high volume water jet on the fire as this may spread the area of the fire. Co-ordinate fire-fighting measures to the fire surroundings.
Additional information: Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment, and emergency procedures
Isolate area; ensure adequate ventilation; use appropriate personal protection equipment; avoid breathing mist, vapors, spray; avoid contact with skin, eyes, and clothing; keep unnecessary and unprotected personnel from entering the involved area. Local authorities should be advised if significant spillages cannot be contained.

6.2. Environmental precautions
Do not allow to enter surface water or drains. Cover drains. Adverse environmental effects

6.3. Methods and material for containment and cleaning up

Soak up with sand, earth, diatomaceous earth, or other suitable inert absorbent material (e.g. sand, diatomaceous earth, acid- or universal binding agents); collect into suitable waste disposal containers. Reuse uncontaminated material when possible. Wash spillage site with large amounts of water. Dispose of in accordance with applicable local and federal environmental control laws and regulations

6.4. Reference to other sections

See protective measures under point 7 and 8. Disposal: see section 13

Section 7: Handling and storage

7.1. Precautions for safe handling

Ensure adequate ventilation. Prevent inhalation of vapor, ingestion, and contact with skin, eyes, and clothing. Keep containers closed when not in use. Precautions apply to empty containers as well. Do not eat, drink, or smoke in the work area. Wash thoroughly after handling. Personal protective equipment must be worn during maintenance or repair of mixers, reactors or other equipment containing the material.

Advice on protection against fire and explosion: Keep away from sources of heat (e.g. hot surfaces), sparks and open flames.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed in a cool, well-ventilated place. Keep/Store only in original container. Store away from foodstuffs and all incompatible material. Keep container tightly closed when not in use.

Further information on storage conditions

Keep away from: Frost, Heat and Humidity

Incompatibilities: Do not store together with strong oxidizing agents.

7.3. Specific end use(s)

No information available.

Section 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits: None assigned

The AIHA recommended WEEL (workplace environmental exposure level) for Benzyl alcohol is 10 ppm (8h-TWA) (45 mg/m3).

8.1.2 Recommended monitoring procedures

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference can be made to European Standard EN 689 for methods for the assessment of exposure by inhalation to chemical agents for the determination of hazardous substances.

8.2. Exposure controls

Appropriate engineering controls

Provide adequate ventilation as well as local exhaustion at critical locations

Protective and hygiene measures

Work in well-ventilated zones or use proper respiratory protection. Only wear fitting, comfortable and clean protective clothing. Avoid contact with skin, eyes, and clothes. Wash hands and face before breaks and after work and take a shower if necessary.

Eye/face protection

Suitable eye protection: Eyeglasses with side protection (goggles). Refer to OSHA Standard 29CFR1910.133 and European Standard EN166.

Hand protection

Use protective gloves. It can be NBR (Nitrile rubber) or Butyl caoutchouc (butyl rubber).

Skin protection

Wear impervious clothing as necessary to protect against product contact. Necessity for boots, apron, face shield, etc. will be dependent on any hazards presented in the work process. Refer to CFR1910.132 and CFR1910.136 for OSHA approved standards on protective clothing and footwear.

Respiratory protection

Usually no personal respiratory protection necessary. If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn. Combination filtering device (EN 14387) A-P3. Self-contained respirator (breathing apparatus) (DIN EN 133).

Other Protective Equipment: The type and degree of personal protective equipment appropriate will depend on the specific work operation. Eye wash stations and emergency showers should be available. Inspect and replace personal protective equipment at regular intervals: use professional care in their selection, use and care.

8.3 Environmental exposure controls

Observe all precautions to prevent contamination of soil and waterways.

Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

9.1.1 General information:

Appearance: Viscous Liquid
Color: Dark grey
Type of Odor: Mild amine-like
Odor Threshold: No data available

9.1.2 Important health, safety, and environmental information:

Boiling Point: >205°C (>401°F)
Melting Point: No data available
Flammability Classification: Not applicable
Flash Point: >200°C (>392°F) (cc)
Autoignition Temperature: No data available
Decomposition Temperature: No data available
Flammability Limits (lower/upper): No data available
Vapor Pressure: No data available
Vapor Density (Air=1): No data available
Evaporation Rate (BuAc=1): No data available
Specific Gravity: 1.62
Water Solubility: Partially soluble
pH: No data available
Viscosity: 2000-6000 cp @ 25°C
Explosive Properties: Not explosive
Oxidizing Properties: Not determined
Molecular Formula: (mixture)
VOC Content: <1%

9.2. Other information No information available

Section 10: Stability and reactivity

10.1. Reactivity

No dangerous reaction is known under normal use and storage conditions.

10.2. Chemical stability

Does not decompose when used for intended uses. No known hazardous decomposition products

10.3. Possibility of hazardous reactions
Mixtures with strongly acidic materials may produce an exothermic reaction.
10.4. Conditions to avoid
Keep away from sources of heat (e.g. hot surfaces), sparks and open flames.
10.5. Incompatible materials
Acids, oxidizing agents, epoxies, isocyanates.
10.6. Hazardous decomposition products
Does not decompose when used for intended uses
Thermal decomposition will generate carbon monoxide, carbon dioxide and nitrogen oxides.

Section 11: Toxicological information

11.1. Information on toxicological effects
Acute Oral Toxicity: LD50(rat): 690 mg/kg (ATE)
Acute Dermal Toxicity: LD50(rabbit): 2188 mg/kg (ATE)
Acute Inhalation Toxicity: LD50(rabbit): >900 mg/m3 (Salicylic acid)
Skin Corrosion/Irritation: Draize Test: Rabbit/skin: Irritating
Serious Eye Damage/Irritation: Draize Test: Rabbit/eye: Irritating
Skin Sensitization (guinea pig): Sensitizer
Germ Cell Mutagenicity: Not classified as mutagenic
Carcinogenicity: Not classified as carcinogenic. Not listed by OSHA/NTP/IARC.
Reproductive Toxicity: Not classified as a reproductive toxicant
Specific Target Organ Toxicity - single exposure (STOT-se): Product not classified based on available data.
Specific Target Organ Toxicity - repeated exposure (STOT-re): May cause damage to the liver and skeletal muscles through prolonged or repeated oral exposure.
NOAEL: (oral, rat): 15 mg/kg body weight per day.
Aspiration Hazard: Aspiration occurring while vomiting may cause lung damage.
Potential Health Effects:
Skin Contact: May cause irritation, itching, reddening, inflammation; may be absorbed through the skin win CNS effects; may cause an allergic reaction.
Eye Contact: Causes serious eye damage; vapors are irritating and may cause damage to the eyes; contact may cause severe burns and permanent eye damage including blindness.
Ingestion: Harmful if swallowed; may cause severe and permanent damage to mouth, throat, and stomach; mat lead to perforation of the intestine.
Inhalation: Harmful if inhaled; may cause severe irritation to the respiratory tract; may cause CNS symptoms including headache, nausea, mental confusion, blurred vision, fatigue, dizziness, and loss of coordination; prolonged overexposure may cause respiratory failure.
Chronic Health Effects:
Skin sensitizer: once sensitized, a severe allergic reaction may occur when subsequently exposed to extremely low levels. After repeated high-dose oral exposure the substance causes adverse effects to the liver, kidneys.
Additional Data:
RTECS No. GV5020833 (PACM)
RTECS No. DN3150000 (Benzyl alcohol)
RTECS No. VO0525000 (Salicylic acid)

Section 12: Ecological information

12.1. Toxicity
12.1.1 Acute/prolonged toxicity to fish
LC50(freshwater fish) (96-hr): 10 mg/l (ATE)
12.1.2 Acute/prolonged toxicity to aquatic invertebrates
EC50(Daphnia magna) (48-hr): 10 mg/l (ATE)
12.1.3 Acute/prolonged toxicity to aquatic plants

EC50(algae)(72-hr): 16 mg/l (ATE)

12.1.4 Toxicity to bacteria, to soil dwelling organisms and to terrestrial plants

No data available

12.1.5 Chronic toxicity to aquatic organisms

Long lasting adverse effects to aquatic organisms.

12.1.6 General effect

Harmful to aquatic life with long lasting effects.

12.2 Persistence and degradability

Not readily biodegradable.

12.3 Bio accumulative potential

No data available

12.4 Mobility in soil

No data available; do not allow product to enter soil/subsoil.

12.5 Results of PBT and vPvB assessment (EC reg. 453/2010)

Product not classified as Persistent, Bio accumulative and Toxic

Product not classified as very Persistent or very Bio accumulative

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6 German WGK classification

WGK = 1 (self-assessment)

12.7 Other adverse effects

Neutralization may be required before discharging to wastewater treatment plants.

Section 13: Disposal considerations

13.1. Waste treatment methods

Advice on disposal

Dispose of waste according to applicable legislation. Do not dump to ground, sewers, or watercourses. Incinerate or otherwise dispose of in compliance with all applicable federal, state, and local environmental control laws and regulations. Waste characterization according to RCRA guidelines and compliance with applicable laws are the responsibility solely of the waste generator.

Contaminated packaging

Non-contaminated packages may be recycled. Dispose of waste according to applicable legislation.

Section 14: Transport information

14.1 Shipping description

Non-Hazardous Material

DOT Proper Shipping Description: Not regulated

IMDG: Not regulated

IATA: Not regulated

Section 15: Regulatory information

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

SARA Title III Section 311/312 (40CFR370): Acute toxicity, Skin corrosion or irritation, serious eye damage or eye irritation

SARA Title III Section 313 (40CFR372): No reportable components

CERCLA Status (40CFR302): No reportable components (Release of a hazardous substance into the environment in an amount that equals or exceeds its reportable quantity (RQ) requires notification to the National Response Center at 800-424-8802.)

RCRA Status (40CFR261): Not listed

OSHA/NTP/IARC Carcinogen Status: Not listed

TSCA Inventory Status: Reported/included

Canadian DSL Status: Reported/included

Canadian WHMIS Status: D2B, E

Chemicals Known to the State of California to Cause Cancer or Reproductive Toxicity: None known to be in the product at levels requiring a warning.

REACH Annex XIV (SVHC)

No listed components

REACH Annex XVII (Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures, and articles)

No listed components

REACH Status (EC 1907/2006): This material has been registered, pre-registered or is otherwise exempted from registration under the Registration, Evaluation and Authorization of Chemical Substances**.**

15.2. Chemical safety assessment

Not available



Section 16: Other information

HMIS ratings:

Health: 2
Flammability: 1
Reactivity: 0
(Personal protective equipment selection is best assigned by the user after performing a hazard assessment on the product as it is to be used in the specific work process.)

National chemical inventories - All components of this product are listed on the following chemical substance inventories:
TSCA (USA)
DSL (Canada)
EINECS (Europe)
ENCS (Japan)
ECL (Korea)
AICS (Australia)
PICCS (Philippines)
IECSC (China)
NZIoC (New Zealand)

Abbreviations and acronyms:

ADR: Accord European sur le transport des merchandises dangerousness par Route
(European Agreement concerning the International Carriage of Dangerous Goods by Road)
ACGIH American Conference of Governmental Industrial Hygienists
AICS Australian Inventory of Chemical Substances
AIHA American Industrial Hygiene Association
ATE Acute toxicity estimate
RID: Règlement international conernat le transport des merchandises dangerousness par chemin de fer
(Regulations Concerning the International Transport of Dangerous Goods by Rail)
IMDG: International Maritime Code for Dangerous Goods
BfR Bundesinstitut für Risikobewertung recommendations for food contact materials
BCF Bioconcentration Factor
CAS: Chemical Abstracts Service (division of the American Chemical Society)
CERCLA Comprehensive Environmental Response, Compensation and Liability Act
CLP: Regulation on Classification, Labelling and Packaging of Substances and Mixtures
DOT Department of Transportation
DNEL: Derived No Effect Level
DSL Domestic Substances List
EINECS European Inventory of Existing Chemical Substances

ECL Existing Chemicals List (Korea)
EC50: Effective concentration, 50 percent
ENCS Existing and New Chemical Substances Inventory (Japan)
EN 689 Workplace atmospheres – Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy
ERG Emergency Response Guide
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
HMIS Hazardous Materials Information System
IARC International Agency for Research on Cancer
IATA: International Air Transport Association
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organization
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
IDLH Immediately Dangerous to Life and Health
IMDG International Maritime Dangerous Goods
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
MAK Maximale Arbeitsplatz Konzentration
NOAEL No observable adverse effect level
NTP National Toxicology Program
OEL Occupational Exposure Limit
OSHA Occupational Safety & Health Administration
PBT Persistent, Bioaccumulative and Toxic
PNEC: Predicted No Effect Concentration
vPvB: very Persistent and very Bioaccumulative
PEL Permissible exposure limit
PICCS Philippine Inventory of Commercial Chemical Substances
PNEC Predicted No Effect Concentration
REACH Registration, evaluation, and authorization of chemical substances
RID International carriage of dangerous goods by Rail
SARA Superfund Amendments and Reauthorization Act
STEL Short Term Exposure Limit
SVHC Substance of Very High Concern
TLV Threshold Limit Value
TSCA Toxic Substances Control Act
TWA Time Weighted Average
VOC Volatile organic compound
WEEL Workplace Environmental Exposure Level
WGK Wassergefahrdungsklasse (Water Hazard Class)
WHMIS Workplace Hazardous Material Identification System

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