



Material Safety Data Sheet (MSDS)

Issue/Revision Date: 2 June 2008

Section 1. Product and Company Information

Chemical Name: Withheld as a trade secret (OSHA 29 CFR 1910.1200 [i] [1])
Synonym(s): None
Tradename: MethAlert Step 2 Developer
Catalog No.: Component of 560-001

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Section 2. Composition/Information on Ingredient(s)

Chemical Name	CAS #	Percent (Approx. by wt)	OSHA PEL	ACGIH® TLV	Listed Carcinogen		Notes
					NTP	IARC	
Trade secret component 1	Not reported	2	No	No	No	No	Ingestion hazard Eye irritant Skin permeator
Trade secret component 2	Not reported	3	200 ppm 360 mg/m ³ Ceiling	25 ppm 45 mg/m ³ Ceiling	Suspect	2B (possible human)	NIOSH NDHL: 2000 ppm, Hazardous
Distilled water	7732-18-5	95	No	No	No	No	Expected to be non- hazardous

Important Note:

As required by U.S. OSHA regulations, hazard information supplied below is based on exposure to reagent-grade (full-strength) chemicals. SKC MethAlert Kits, however, contain dilute solutions of 2% and 3% by weight for trade secret components 1 and 2.

Section 3. Hazards Identification

Emergency Overview: Toxic
Toxic and harmful if swallowed
Flammable (USA), Extremely flammable (EU)
Irritating to respiratory system
Risk of serious damage to eyes
Limited evidence of carcinogenic effect
May cause sensitization by skin contact
California Proposition 65 carcinogen
Photosensitizer
Lachrymator

Target Organs: Blood, kidneys

HMIS Rating: **Health:** 2*
 Flammability: 4
 Reactivity: 2

** Additional chronic hazards present*

NFPA Rating: **Health:** 2
 Flammability: 4
 Reactivity: 2

For additional information on toxicity, please refer to Section 11.

Section 4. First Aid Measures

Oral Exposure

If swallowed, wash out mouth with water provided person is conscious. Call a physician immediately.

Inhalation Exposure

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Dermal Exposure

In case of skin contact, wash skin with soap and copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

Eye Exposure

In case of contact with eyes, immediately flush eyes with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5. Fire Fighting Measures

Flammable Hazards

Flammable Hazards: Yes
Peroxide Former: Yes

Explosion Hazards

May explode when heated. Closed containers may rupture and explode during runaway polymerization. Vapors may form explosive mixtures with air.

Flash Point: N/A
Ignition Temperature: N/A
Flammability: N/A

Extinguishing Media

Suitable: For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

Firefighting

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Specific Hazard(s): Extremely flammable. Emits toxic fumes under fire conditions. Vapor may travel considerable distance to source of ignition and flash back.

Specific Method(s) of Fire Fighting: Use water spray to cool fire-exposed containers.

Section 6. Accidental Release Measures

Procedure to be Followed in Case of Leak or Spill

Evacuate area. Shut off all sources of ignition. Use nonsparking tools.

Procedure(s) of Personal Precaution(s)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

Methods for Cleaning Up

Cover with an activated carbon adsorbent, take up and place in closed containers. Transport outdoors. Ventilate area and wash spill site after material pickup is complete.

Section 7. Handling and Storage

Handling

User Exposure: Do not breathe vapor. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure. Open carefully. Avoid all contamination. Always open containers slowly to allow any excess pressure to vent.

Storage

Suitable: Keep container tightly closed. Keep away from heat, sparks, and open flame.

Special Requirements

Store at ≤ 39.2 F (4 C) before and after opening. Pack in cooler with ice for field use. Do not store with food.

Section 8. Exposure Controls/Personal Protective Equipment (PPE)

The identities of components 1 and 2 are withheld as a trade secret (OSHA 29 CFR 1910.1200 [i] [1]). Contains no substances with occupational exposure limit values.

Engineering Controls

Safety shower and eye bath. Mechanical exhaust required.

Personal Protective Equipment

- Respiratory:** Use respirators and components tested and approved under appropriate government standards such as NIOSH (U.S.) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate, use a full-face respirator with multi-purpose combination (U.S.) or type AXBAK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator.
- Hand:** Compatible chemical-resistant gloves
- Eye:** Chemical safety goggles

General Hygiene Measures

Remove and wash contaminated clothing promptly. Wash thoroughly after handling.

Exposure Limits, RTECS for Component 2 of Trade Secret Ingredient

Country	Source	Type	Value
U.S.A.	ACGIH	Ceiling	25 ppm
U.S.A.	MSHA Standard - air	TWA	100 ppm (180 mg/m ³)
U.S.A.	OSHA	PEL (8h TWA)	200 ppm (360 mg/m ³)
New Zealand	OEL (Check ACGIH TLV)	---	---
U.S.A.	NIOSH	---	(18 ppm LOQ)

Exposure Limits for Component 2 of Trade Secret Ingredient

Country	Source	Type	Value
Poland	---	NDS	5 mg/m ³
Poland	---	NDSch	---
Poland	---	NDSP	45

Section 9. Physical/Chemical Properties

Appearance

Color:	Light brown
Form:	Liquid
Odor:	Yes

Note: No further properties were reported by chemical supplier.

Section 10. Stability and Reactivity

Stability

Stable:	Unstable
Conditions to Avoid:	Air
Materials to Avoid:	Strong oxidizing agents, reducing agents, acids, nitric acid, peroxides, bases, caustic soda, amines, ammonia, oxygen, chemical contamination

Hazardous Decomposition Products

Hazardous Decomposition Products:	Carbon monoxide, carbon dioxide, nitrogen oxides, sodium/sodium oxides, hydrogen cyanide
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Hazardous Polymerization:	Oxidized readily in air to form unstable peroxides that can lead to spontaneous explosion. May undergo autopolymerization. Uncontrolled polymerization can cause rapid evolution of heat and increased pressure which can result in violent rupture of storage vessels or containers.
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Section 11. Toxicological Information

The identities of components 1 and 2 are withheld as a trade secret (OSHA 29 CFR 1910.1200 [i] [1]).

Route of Exposure

Skin Contact:	May cause skin irritation
Skin Absorption:	May be harmful if absorbed through the skin
Eye Contact:	Causes severe eye irritation. Lachrymator.
Inhalation:	May be harmful if inhaled. Material is irritating to mucous membranes and upper respiratory tract.
Ingestion:	Toxic if swallowed

Sensitization

Sensitization:	Photosensitizer
Skin:	May cause allergic skin reaction

Target Organ(s)

or System(s): Blood, central nervous system, liver, cardiovascular system, kidneys, lungs

Signs and Symptoms of Exposure

Exposure can cause pulmonary edema. Effects may be delayed. Nausea, vomiting, unconsciousness, blurred vision, headache, and may cause cyanosis (blue-gray coloring of skin and lips caused by lack of oxygen). To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Toxicity Data

Component 1 of Trade Secret Ingredient

Oral:	Rat, 99 mg/kg, referred to anhydrous form, LD50
Intraperitoneal:	Rat, 7 mg/kg, LD50
Intravenous:	Rat, 9300 µg/kg, LD50
Intraperitoneal:	Mouse, 9 mg/kg, LD50
Intravenous:	Mouse, 6 mg/kg, LD50
Intravenous:	Rabbit, 1800 µg/kg, LD50

Component 2 of Trade Secret Ingredient

Oral: Rat, 661 mg/kg, LD50

Remarks

Lungs, Thorax, or Respiration: Dyspnea

Peripheral Nerve and Sensation: Spastic paralysis with or without sensory change

Behavioral: Altered sleep time (including change in righting reflex)

Inhalation: Rat, 13,300 ppm, LC50

Remarks

Lungs, Thorax, or Respiration: Dyspnea

Behavioral: Excitement

Subcutaneous: Rat, 640 mg/kg, LD50

Remarks

Behavioral: General anesthetic

Oral: Mouse, 900 mg/kg, LD50

Inhalation: Mouse, 23,000 mg/m³, LD50

Intraperitoneal: Mouse, 500 mg/kg, LD50

Subcutaneous: Mouse, 560 mg/kg, LD50

Remarks

Behavioral: General anesthetic

Skin: Rabbit, 3540 mg/kg, LD50

Inhalation: Hamster, 17,000 ppm, LD50

Intratracheal: Hamster, 96 mg/kg, LD50

Inhalation: Mammal, 20,200 mg/m³, LC50

Remarks

Lungs, Thorax, or Respiration: Dyspnea

Sense Organs and Special Senses (Nose, Eye, Ear, and Taste): Eye: Other

Behavioral: Excitement

Component 2 Irritation Data

Skin: Rabbit, 500 mg

Remarks: Mild irritation effect

Eyes: Human, 50 ppm, 15M

Skin: Rabbit, 500 mg

Remarks: Open irritation test

Eyes: Rabbit, 40 mg

Remarks: Severe irritation effect

Component 2 Chronic Exposure - Carcinogen

Result: This product is or contains a component that has been reported to be possibly carcinogenic based on its IARC, ACGIH, NTP, or EPA classification.

Species: Rat

Route of Application: Inhalation

Dose: 735 ppm

Exposure Time: 6 H/2 Y

Frequency: I

Result: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste): Olfaction: Tumors Tumorigenic: Carcinogenic by RTECS criteria

Species: Hamster

Route of Application: Inhalation

Dose: 2040 ppm

Exposure Time: 7 H/52 W

Frequency: I

Result: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste): Olfaction: Tumors

Lungs, Thorax, or Respiration: Tumors

Tumorigenic: Equivocal tumorigenic agent by RTECS criteria

Species: Rat

Route of Application: Inhalation

Dose: 1410 ppm

Exposure Time: 6 H/65 W

Frequency: I

Result: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste): Olfaction: Tumors

Tumorigenic: Equivocal tumorigenic agent by RTECS criteria

Component 2 IARC Carcinogen List

Rating: Group 2B

Component 2 NTP Carcinogen List

Rating: Anticipated to be a carcinogen

Component 2 IRIS/EPA Carcinogen List

Rating: Group B2

Species: Rat

Route: Inhalation

Component 2 Chronic Exposure - Teratogen

Result: Laboratory experiments have shown teratogenic effects.

Species: Rat

Dose: 4800 mg/kg

Route of Exposure: Oral

Exposure Time: (1 - 20 D PREG)

Result: Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus)

Specific Developmental Abnormalities: Respiratory system

Specific Developmental Abnormalities: Hepatobiliary system

Species: Rat

Dose: 5040 mg/kg

Route of Exposure: Oral

Exposure Time: (1 - 21 D PREG)

Result: Specific Developmental Abnormalities: Urogenital system

Specific Developmental Abnormalities: Endocrine system

Specific Developmental Abnormalities: Central nervous system

Species: Rat

Dose: 100 mg/kg

Route of Exposure: Intraperitoneal

Exposure Time: (12 D PREG)

Result: Specific Developmental Abnormalities: Homeostasis

Species: Rat

Dose: 400 mg/kg

Route of Exposure: Intraperitoneal

Exposure Time: (8 - 15 D PREG)

Result: Specific Developmental Abnormalities: Eye, ear

Specific Developmental Abnormalities: Musculoskeletal system

Species: Rat

Dose: 600 mg/kg

Route of Exposure: Intraperitoneal

Exposure Time: (8 - 15 D PREG)

Result: Specific Developmental Abnormalities: Craniofacial (including nose and tongue)

Species: Mouse

Dose: 640 µg/kg

Route of Exposure: Intraperitoneal

Exposure Time: (10 D PREG)

Result: Specific Developmental Abnormalities: Musculoskeletal system

Components 2 Chronic Exposure - Mutagen

Result: Laboratory experiments have shown mutagenic effects.

Species: Human

Dose: 1560 UMOL/L

Cell Type: Lymphocyte

Mutation test: DNA damage

Species: Human
Dose: 3 MMOL/L
Cell Type: Other cell types
Mutation test: DNA damage

Species: Human
Dose: 30 MMOL/L
Cell Type: Other cell types
Mutation test: DNA inhibition

Species: Human
Dose: 30 MMOL/L
Cell Type: Other cell types
Mutation test: Other mutation test systems

Species: Human
Dose: 10 MMOL/L
Cell Type: HeLa cell
Mutation test: DNA inhibition

Species: Human
Dose: 1000 ppm
Exposure Time: 72 H
Cell Type: Leukocyte
Mutation test: Cytogenetic analysis

Species: Human
Dose: 1200 UMOL/L
Cell Type: Lymphocyte
Mutation test: Sister chromatid exchange

Species: Human
Dose: 40 UMOL/L
Cell Type: Fibroblast
Mutation test: Sister chromatid exchange

Species: Human
Dose: 5 MMOL/L
Cell Type: Fibroblast
Mutation test: Mutation in mammalian somatic cells

Species: Rat
Dose: 500 UMOL/L
Cell Type: Fibroblast
Mutation test: Micronucleus test

Species: Rat
Dose: 3 MMOL/L
Exposure Time: 3 H
Cell Type: Kidney
Mutation test: Morphological transformation

Species: Rat
Dose: 100 UMOL/L
Cell Type: Fibroblast
Mutation test: Morphological transformation

Species: Rat
Dose: 200 MMOL/L
Cell Type: Liver
Mutation test: DNA damage

Species: Rat
Route: Inhalation
Dose: 1000 ppm
Exposure Time: 6 H/5 D
Mutation test: DNA damage

Species: Rat
Dose: 500 MMOL/L
Cell Type: Other cell types
Mutation test: DNA damage

Species: Rat
Dose: 12500 UMOL/L
Cell Type: Other cell types
Mutation test: Other mutation test systems

Species: Rat
Dose: 1 MMOL/L
Cell Type: Fibroblast
Mutation test: DNA inhibition

Species: Rat
Dose: 1 MMOL/L
Cell Type: Fibroblast
Mutation test: Other mutation test systems

Species: Rat
Dose: 100 UMOL/L
Cell Type: Fibroblast
Mutation test: Cytogenetic analysis

Species: Mouse
Route: Intraperitoneal
Dose: 95 mg/kg
Mutation test: Micronucleus test

Species: Mouse
Dose: 10 mg/L
Cell Type: Embryo
Mutation test: Morphological transformation

Species: Mouse
Route: Intraperitoneal
Dose: 15 ng/kg
Mutation test: Sister chromatid exchange

Species: Mouse
Dose: 4 MMOL/L
Cell Type: Lymphocyte
Mutation test: Mutation in mammalian somatic cells

Species: Hamster
Dose: 40 ppm
Cell Type: Embryo
Mutation test: Cytogenetic analysis

Species: Hamster
Route: Intraperitoneal
Dose: 500 µg/kg
Mutation test: Sister chromatid exchange

Species: Hamster
Dose: 30 UMOL/L
Cell Type: Ovary
Mutation test: Sister chromatid exchange

Species: Hamster
Dose: 20 ppm
Cell Type: Embryo
Mutation test: SLN

Species: Mammal
Dose: 1 MOL/L
Exposure Time: 30 M
Cell Type: Lymphocyte
Mutation test: DNA damage

Component 2 Chronic Exposure - Reproductive Hazard

Species: Rat
Dose: 5040 mg/kg
Route of Application: Oral
Exposure Time: (1 - 21 D PREG)
Result: Effects on Newborn: Growth statistics (e.g., reduced weight gain)

Species: Rat
Dose: 300 mg/kg
Route of Application: Intraperitoneal
Exposure Time: (8 - 13 D PREG)
Result: Effects on Newborn: Behavioral

Species: Rat
Dose: 50 mg/kg
Route of Application: Intraperitoneal
Exposure Time: (12 D PREG)
Result: Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants)
Effects on Embryo or Fetus: Extra embryonic structures (e.g., placenta, umbilical cord)
Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus)

Species: Mouse
Dose: 120 mg/kg
Route of Application: Intravenous
Exposure Time: (7 - 9 D PREG)
Result: Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus)
Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants)

Species: Mouse
Dose: 4 gm/kg
Route of Application: Intravenous
Exposure Time: (6 D PREG)
Result: Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants)
Specific Developmental Abnormalities: Central nervous system

Distilled Water Data

RTECS#: None reported
CAS#: 7732-18-5: ZC0110000
LD50/LC50: CAS# 7732-18-5: Oral, rat: LD50 = > 90 mL/kg
Carcinogenicity: CAS# 7732-18-5: Not listed by ACGIH, IARC, NTP, CA Prop 65
Epidemiology: No information found
Teratogenicity: No information found
Reproductive Effects: No information found
Mutagenicity: No information found
Neurotoxicity: No information found
Other Studies: None reported

Section 12. Ecological Information

The identities of components 1 and 2 are withheld as a trade secret (OSHA 29 CFR 1910.1200 [i] [1]).

Component 1 Ecological Information

No data available

Acute Ecotoxicity Tests

Component 2 of Trade Secret Ingredient

Test Type: LC50 Fish
Species: Pimephales promelas (fathead minnow)
Time: 96 h
Value: 31 mg/l

Test Type: EC50 Daphnia
Species: Daphnia magna
Time: 48 h
Value: 48 mg/l

Section 13. Disposal Considerations

Exert extra care in igniting as this material is highly flammable.

Any unused material should be managed in an appropriate and approved waste disposal facility. Processing, use, or contamination of this product may change the waste management options. Dispose of container and unused contents in accordance with federal, state, and local regulations.

Section 14. Transport Information

The identities of components 1 and 2 are withheld as a trade secret (OSHA 29 CFR 1910.1200 [i] [1]).

		Comp. 1	Comp. 2	Distilled Water
U.S. DOT	Class	6.1	3	XCP
	Packing Group	III	I	Not reported
	Hazard Label	Toxic Substance	Flammable liquid	Not reported
	PIH	Not PIH	Not PIH	Not reported
				Not regulated for domestic transport
IATA	Hazard Class	6.1	3	Not reported
	Packing Group	III	I Not Allowed - Aircraft: Cargo aircraft only. Not permitted on passenger aircraft	Not reported
Canada TDG	Shipping Name	Not reported	Not reported	Not regulated
	Hazard Class	Not reported	Not reported	Not reported
	UN Number	Not reported	Not reported	Not reported
	Packing Group	Not reported	Not reported	Not reported

Section 15. Regulatory Information

The identities of components 1 and 2 are withheld as a trade secret (OSHA 29 CFR 1910.1200 [i] [1]).

Component 1 of Trade Secret Ingredient

EU Additional Classification

Symbol of Danger: T
Indication of Danger: Toxic
R: 25
Risk Statements: Toxic if swallowed
S: 45
Safety Statements: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

U.S. Classification and Label Text

Indication of Danger: Toxic
Risk Statements: Toxic if swallowed
Safety Statements: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
U.S. Statements: Target organ(s): Blood

United States Regulatory Information

SARA Listed: Yes
Deminimis: 1%
Notes: This product is subject to SARA section 313 reporting requirements - cyanide compounds.

Canada Regulatory Information

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR; MSDS contains all the information required by the CPR.
DSL: No
NDSL: No

Component 2 of Trade Secret Ingredient

EU Directives Classification

Symbol of Danger: F+-Xn
Indication of Danger: Extremely Flammable. Harmful
R: 12-36/37-40
Risk Statements: Extremely flammable. Irritating to eyes and respiratory system. Limited evidence of a carcinogenic effect.
S: 16-33-36/37
Safety Statements: Keep away from sources of ignition - no smoking. Take precautionary measures against static discharges. Wear suitable protective clothing and gloves.

U.S. Classification and Label Text

Indication of Danger: Flammable (U.S.A.) Extremely Flammable (EU). Toxic
Risk Statements: Harmful if swallowed. Irritating to respiratory system. Risk of serious damage to eyes. Limited evidence of a carcinogenic effect. May cause sensitization by skin contact.
Safety Statements: Keep away from sources of ignition - no smoking. Take precautionary measures against static discharges. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves, and eye/face protection.
U.S. Statements: California proposition 65 carcinogen. Photosensitizer. Lachrymator. Target organ(s): Blood. Kidneys

United States Regulatory Information

SARA Listed: Yes
Deminimis: 0.1%
Notes: This product is subject to SARA section 313 reporting requirements.
TSCA Inventory Item: Yes

United States - State Regulatory Information

California Prop - 65
California Prop - 65: This product is or contains chemical(s) known to the state of California to cause cancer. This product is or contains chemical(s) known to the state of California to cause cancer.

Canada Regulatory Information**WHMIS Classification:**

This product has been classified in accordance with the hazard criteria of the CPR; MSDS contains all the information required by the CPR.

DSL:

Yes

NDSL:

No

Distilled Water**OSHA Hazards:**

None

TSCA Status:

On inventory

DSL Status:

On list

NDSL Status:

Not reported

SARA 302 Components:

None have a TPQ

SARA 313 Components:

No chemicals are reportable.

SARA 311/312 Hazards:

Not reported

MA Right To**Know Comp.:**

Not listed

PA Right to**Know Comp.:**

Not listed

NJ Right to**Know Comp.:**

Not listed

CA Prop. 65 Comp.:

No components listed

WHMIS Classification:

Classified in accordance with hazard criteria of the CPR; MSDS contains all information required by the CPR.

Further Regulatory Information on Distilled Water**Health & Safety Reporting List:**

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules:

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b:

Not listed under TSCA Section 12b

TSCA Significant New Use Rule:

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances**and Corresponding RQs:**

None of the chemicals in this material have an RQ.

Clean Air Act:

This material does not contain any hazardous air pollutants, Class 1 Ozone depleters, or Class 2 Ozone depleters.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances, Priority Pollutants, or Toxic Pollutants under the CWA.

European/International Regulations**European Labeling in Accordance with EC Directives****Hazard Symbols:**

Not available

Risk Phrases:

Not reported

Safety Phrases:

Not reported

WGK (Water Danger/Protection):

CAS# 7732-18-5: No information available

Canadian Ingredient Disclosure List

Section 16. Other Information

Disclaimer

For approved uses only. Not for drug, household, or other uses.

The above information is believed to be correct, but does not purport to be all-inclusive and shall be used only as a guide. SKC Inc. shall not be held liable for any damage resulting from handling or from contact with the above product.