NARK2007 Modified Scott Reagent

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 1: Identification

1.1. Identification

Product form : Mixtures

Product name : NARK2007 Modified Scott Reagent

Product code : NARK2007

1.2. Recommended use and restrictions on use

Use of the substance/mixture : Crime Scene Investigation

1.3. Supplier

SIRCHIE
100 Hunter Place
Youngsville, NC 27596 - USA
T 919-554-2244; 800-356-7311 - F 919-554-2266; 800-899-8181
http://www.sirchie.com

1.4. Emergency telephone number

Emergency number : 1.800.424.9300
CHEMTREC: 1.800.424.9300

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Acute toxicity (oral) Category 4	H302	Harmful if swallowed
Acute toxicity (inhalation:vapour) Category 3	H331	Toxic if inhaled
Skin corrosion/irritation Category 1B	H314	Causes severe skin burns and eye damage
Respiratory sensitisation Category 1	H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
Skin sensitization Category 1	H317	May cause an allergic skin reaction
Carcinogenicity Category 2	H351	Suspected of causing cancer
Specific target organ toxicity (repeated exposure) Category 2	H373	May cause damage to organs (digestive tract, urinary organs) through prolonged or repeated exposure (Inhalation, Dermal, oral)

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS-US labeling

Hazard pictograms (GHS-US) :

GHS05 GHS06 GHS08

Signal word (GHS-US) : Danger

Hazard statements (GHS-US) : H302 - Harmful if swallowed
H314 - Causes severe skin burns and eye damage
H317 - May cause an allergic skin reaction
H331 - Toxic if inhaled
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
H373 - May cause damage to organs (digestive tract, urinary organs) through prolonged or repeated exposure (Inhalation, Dermal, oral)

Precautionary statements (GHS-US) : P261 - Avoid breathing fume, vapors
P264 - Wash hands, forearms and face thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P280 - Wear eye protection, protective gloves

P301+P312 - If swallowed: Call a POISON CENTER if you feel unwell
P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting
P302+P352 - If on skin: Wash with plenty of water
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P308+P313 - If exposed or concerned: Get medical advice/attention
P314 - Get medical advice/attention if you feel unwell
P330 - Rinse mouth
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention
P342+P311 - If experiencing respiratory symptoms: Call a doctor
P403+P233 - Store in a well-ventilated place. Keep container tightly closed
P501 - Dispose of contents/container to an authorized waste collection point

2.3. Other hazards which do not result in classification

Other hazards not contributing to the classification : These chemicals, as used in our chemical field test reagents, are in diluted and minimal concentrations and should not be harmful to users who adhere to good chemical handling hygiene. None under normal conditions.

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS-US classification
chloroform	(CAS No) 67-66-3	> 41.58	Acute Tox. 4 (Oral), H302 Acute Tox. 3 (Inhalation), H331 Skin Irrit. 2, H315 Carc. 2, H351 STOT RE 2, H373
AQUA	(CAS No) 7732-18-5	21	Not classified
glycerol	(CAS No) 56-81-5	19.74	Not classified
AQUA	(CAS No) 7732-18-5	10.08	Not classified
hydrochloric acid	(CAS No) 7647-01-0	5.92	Skin Corr. 1B, H314 STOT SE 3, H335
cobalt(II)thiocyanate	(CAS No) 3017-60-5	0.42	Acute Tox. 4 (Oral), H302 Resp. Sens. 1, H334 Skin Sens. 1, H317 Carc. 1B, H350
tartaric acid, L-(+)-	(CAS No) 87-69-4	0.42	Skin Irrit. 2, H315 Eye Irrit. 2A, H319
boric acid	(CAS No) 10043-35-3	0.42	Not classified

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation : Allow victim to breathe fresh air. Allow the victim to rest.

First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.

First-aid measures after eye contact : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist.

First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/injuries : Not expected to present a significant hazard under anticipated conditions of normal use.

4.3. Immediate medical attention and special treatment, if necessary

No additional information available

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Carbon dioxide. Dry chemical powder. Foam. Sand.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

Explosion hazard : No data available on direct explosion hazard.

Reactivity : No data available.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Exercise caution when fighting any chemical fire.

Protection during firefighting : Do not attempt to take action without suitable protective equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.

Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Keep container closed when not in use.

Incompatible products : Strong bases. Strong acids.

Incompatible materials : Sources of ignition. Direct sunlight.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

cobalt(II)thiocyanate (3017-60-5)		
ACGIH	ACGIH TWA (mg/m³)	0.02 mg/m³ (Cobalt, inorganic compounds, as Co; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)

glycerol (56-81-5)
Not applicable

tartaric acid, L-(+)- (87-69-4)
Not applicable

AQUA (7732-18-5)
Not applicable

boric acid (10043-35-3)		
ACGIH	ACGIH TWA (mg/m³)	2 mg/m³ (Borate compounds, inorganic; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value; Inhalable fraction)
ACGIH	ACGIH STEL (mg/m³)	6 mg/m³ (Borate compounds, inorganic; USA; Short time value; TLV - Adopted Value; Inhalable fraction)

hydrochloric acid (7647-01-0)
Not applicable

AQUA (7732-18-5)
Not applicable

chloroform (67-66-3)		
ACGIH	ACGIH TWA (ppm)	10 ppm (Chloroform; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)

8.2. Appropriate engineering controls

No additional information available

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Safety glasses. Gloves.

Hand protection:

Gloves

Eye protection:

Safety glasses

Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Appearance	:	Liquid.
Color	:	pink
Odor	:	Mild odour
Odor threshold	:	No data available
pH	:	No data available
Melting point	:	No data available
Freezing point	:	No data available
Boiling point	:	No data available
Flash point	:	No data available
Relative evaporation rate (butyl acetate=1)	:	No data available
Flammability (solid, gas)	:	Non flammable.
Vapor pressure	:	No data available
Relative vapor density at 20 °C	:	No data available
Relative density	:	No data available
Solubility	:	Soluble in water.
Log Pow	:	No data available

Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available
Explosion limits	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No data available.

10.2. Chemical stability

Stable under recommended handling and storage conditions (see section 7).

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

fume. Carbon monoxide. Carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Oral: Harmful if swallowed. Inhalation:vapour: Toxic if inhaled.

NARK2007 Modified Scott Reagent	
ATE US (oral)	1648.333 mg/kg body weight
ATE US (vapors)	7.215 mg/l/4h

cobalt(II)thiocyanate (3017-60-5)	
ATE US (oral)	500.000 mg/kg body weight

glycerol (56-81-5)	
LD50 oral rat	27200 mg/kg (Rat; Experimental value)
LC50 inhalation rat (mg/l)	> 2.75 mg/l/4h (Rat; Experimental value)
ATE US (oral)	27200.000 mg/kg body weight

tartaric acid, L-(+)- (87-69-4)	
LD50 oral rat	> 2000 mg/kg body weight (Rat; OECD 423: Acute Oral Toxicity – Acute Toxic Class Method; Experimental value)
LD50 dermal rat	> 2000 mg/kg body weight (Rat; Experimental value; OECD 402: Acute Dermal Toxicity)

boric acid (10043-35-3)	
LD50 oral rat	2660 mg/kg (Rat; OECD 401: Acute Oral Toxicity; Literature study; >2600 mg/kg bodyweight; Rat; Experimental value)
LD50 dermal rabbit	> 2000 mg/kg Rabbit; Experimental value; FIFRA (40 CFR)
ATE US (oral)	2660.000 mg/kg body weight

chloroform (67-66-3)	
LD50 oral rat	695 mg/kg (Rat; OECD 401: Acute Oral Toxicity; Experimental value; 908 mg/kg bodyweight; Rat; OECD 401: Acute Oral Toxicity; Experimental value; 1117 mg/kg bodyweight; Rat)
LD50 dermal rabbit	> 20000 mg/kg (Rabbit; No reliable data available; >3980 mg/kg bodyweight; Rabbit)
ATE US (oral)	695.000 mg/kg body weight
ATE US (gases)	700.000 ppmV/4h

chloroform (67-66-3)	
ATE US (vapors)	3.000 mg/l/4h
ATE US (dust, mist)	0.500 mg/l/4h

Skin corrosion/irritation : Causes severe skin burns and eye damage.

Serious eye damage/irritation : Not classified

Respiratory or skin sensitization : May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.

Germ cell mutagenicity : Not classified

Based on available data, the classification criteria are not met

Carcinogenicity : Suspected of causing cancer.

NARK2007 Modified Scott Reagent	
Additional information	Chloroform is a suspect carcinogen based on animal studies only. Studies on long term exposure to humans is inconclusive. Based on the amount and packaging of this product, there is no known risk of cancer.
IARC group	2B - Possibly carcinogenic to humans

hydrochloric acid (7647-01-0)	
IARC group	3 - Not classifiable

chloroform (67-66-3)	
IARC group	2B - Possibly carcinogenic to humans

Reproductive toxicity : Not classified

Based on available data, the classification criteria are not met

STOT-single exposure : Not classified

STOT-repeated exposure : May cause damage to organs (digestive tract, urinary organs) through prolonged or repeated exposure (Inhalation, Dermal, oral).

Aspiration hazard : Not classified

Potential Adverse human health effects and symptoms : Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

12.1. Toxicity

glycerol (56-81-5)	
LC50 fish 1	54000 mg/l (LC50; 96 h; Salmo gairdneri; Static system; Fresh water)
EC50 Daphnia 1	> 10000 mg/l (EC50; 24 h; Daphnia magna; Static system; Fresh water)
Threshold limit algae 1	> 10000 mg/l (EC0; 8 days; Scenedesmus quadricauda; Static system; Fresh water)

tartaric acid, L-(+)- (87-69-4)	
EC50 Daphnia 2	230 mg/l (EC50; 48 h; Daphnia magna)

hydrochloric acid (7647-01-0)	
EC50 Daphnia 1	56 mg/l (LC50; Other; 48 h; Daphnia magna)

chloroform (67-66-3)	
LC50 fish 1	18.2 ppm (LC50; ASTM; 96 h; Oncorhynchus mykiss; Flow-through system; Fresh water; Experimental value)
EC50 Daphnia 2	152.5 mg/l (EC50; US EPA; 48 h; Daphnia magna; Static system; Salt water; Experimental value)

12.2. Persistence and degradability

NARK2007 Modified Scott Reagent	
Persistence and degradability	Not established.

cobalt(II)thiocyanate (3017-60-5)	
Persistence and degradability	Biodegradability: not applicable.

cobalt(II)thiocyanate (3017-60-5)	
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable

glycerol (56-81-5)	
Persistence and degradability	Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.87 g O_2/g substance
Chemical oxygen demand (COD)	1.16 g O_2/g substance
ThOD	1.217 g O_2/g substance
BOD (% of ThOD)	0.71

tartaric acid, L-(+)- (87-69-4)	
Persistence and degradability	Readily biodegradable in water. No significant hydrolysis. No (test)data on mobility of the substance available.
Biochemical oxygen demand (BOD)	0.35 g O_2/g substance
Chemical oxygen demand (COD)	0.42 g O_2/g substance
ThOD	0.53 g O_2/g substance
BOD (% of ThOD)	0.86 (20 days; Literature study)

boric acid (10043-35-3)	
Persistence and degradability	Biodegradability: not applicable. Biodegradability in soil: not applicable. No (test)data on mobility of the substance available.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable

hydrochloric acid (7647-01-0)	
Persistence and degradability	Biodegradability: not applicable. No (test)data on mobility of the components available.

chloroform (67-66-3)	
Persistence and degradability	Not readily biodegradable in water. Non degradable in the soil. Low potential for adsorption in soil.
ThOD	0.33 - 1.35 g O_2/g substance
BOD (% of ThOD)	0.015 - 0.06

12.3. Bioaccumulative potential

NARK2007 Modified Scott Reagent	
Bioaccumulative potential	Not established.

cobalt(II)thiocyanate (3017-60-5)	
Bioaccumulative potential	No bioaccumulation data available.

glycerol (56-81-5)	
Log Pow	-1.75 (Experimental value; Equivalent or similar to OECD 107)
Bioaccumulative potential	Bioaccumulation: not applicable.

tartaric acid, L-(+)- (87-69-4)	
Log Pow	-1.91 (Experimental value; OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method; 20 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

boric acid (10043-35-3)	
BCF fish 2	< 0.1 (BCF; 60 days; Oncorhynchus tshawytscha; Flow-through system; Fresh water; Weight of evidence)
Log Pow	-1.09 (Experimental value; EU Method A.8: Partition Coefficient; 22 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

hydrochloric acid (7647-01-0)	
Log Pow	0.3 (Literature)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

chloroform (67-66-3)	
BCF fish 2	1.4 - 4.7 (BCF; OECD 305: Bioconcentration: Flow-Through Fish Test; 42 days; Cyprinus carpio; Flow-through system; Fresh water; Experimental value)
Log Pow	1.97 (Experimental value; 20 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

12.4. Mobility in soil

glycerol (56-81-5)	
Surface tension	0.0634 N/m (20 °C; 1000 g/l)

boric acid (10043-35-3)	
Ecology - soil	May be harmful to plant growth, blooming and fruit formation.

hydrochloric acid (7647-01-0)	
Ecology - soil	May be harmful to plant growth, blooming and fruit formation.

chloroform (67-66-3)	
Surface tension	0.0271 N/m (20 °C)
Log Koc	Koc,Other; 86.7-367; Experimental value; log Koc; Other; 1.94-2.56; Experimental value
Ecology - soil	May be harmful to plant growth, blooming and fruit formation.

12.5. Other adverse effects

Effect on the global warming : No known effects from this product.
GWPmix comment : No known effects from this product.

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Disposal methods

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.
Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Transport document description : UN3316 Chemical kits, 9

UN-No.(DOT) : UN3316
Proper Shipping Name (DOT) : Chemical kits
Class (DOT) : 9 - Class 9 - Miscellaneous hazardous material 49 CFR 173.140
Hazard labels (DOT) : 9 - Class 9 (Miscellaneous dangerous materials)

DOT Packaging Non Bulk (49 CFR 173.xxx) : 161
DOT Packaging Bulk (49 CFR 173.xxx) : None

DOT Special Provisions (49 CFR 172.102)	:	15 - This entry applies to Chemical kits and First aid kits containing one or more compatible items of hazardous materials in boxes, cases, etc. that are used for medical, analytical, diagnostic or testing purposes. For transportation by aircraft, materials forbidden for transportation by passenger aircraft or cargo aircraft may not be included in the kits. Chemical kits and first aid kits are excepted from the specification packaging requirements of this subchapter when packaged in combination packaging. Chemical kits and first aid kits are also excepted from the labeling and placarding requirements of this subchapter, except when offered for transportation or transported by air. Chemical and first aid kits may be transported in accordance with the consumer commodity and ORM exceptions in 173.156, provided they meet all required conditions. Kits that are carried on board transport vehicles for first aid or operating purposes are not subject to the requirements of this subchapter.
DOT Packaging Exceptions (49 CFR 173.xxx)	:	161
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	:	10 kg
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	:	10 kg
DOT Vessel Stowage Location	:	A - The material may be stowed ‘‘on deck’’ or ‘‘under deck’’ on a cargo vessel and on a passenger vessel.
Other information	:	No supplementary information available.

TDG

Transport by sea

Not applicable

Air transport

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

NARK2007 Modified Scott Reagent
Subject to reporting requirements of United States SARA Section 313 Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

No additional information available

EU-Regulations

No additional information available

National regulations

NARK2007 Modified Scott Reagent
Listed on IARC (International Agency for Research on Cancer)

15.3. US State regulations

NARK2007 Modified Scott Reagent	
U.S. - California - Proposition 65 - Carcinogens List	Yes
U.S. - California - Proposition 65 - Developmental Toxicity	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No

SECTION 16: Other information

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labeling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Training advice : Normal use of this product shall imply use in accordance with the instructions on the packaging. Keep in tightly closed container. Keep cool and dry. Avoid all ignition sources - heat, open flame, sparks. Avoid incompatible materials. Avoid dust creation and accumulation. Avoid inhalation and ingestion. Avoid contact with eyes. Wash thoroughly after handling.

Other information : This Safety Data Sheet has been established in accordance with the applicable European Union legislation.

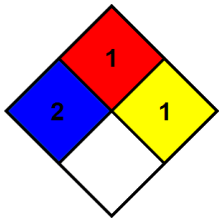
Full text of H-phrases:

H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H331	Toxic if inhaled
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335	May cause respiratory irritation
H350	May cause cancer
H351	Suspected of causing cancer
H373	May cause damage to organs through prolonged or repeated exposure

NFPA health hazard : 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.

NFPA fire hazard : 1 - Must be preheated before ignition can occur.

NFPA reactivity : 1 - Normally stable, but can become unstable at elevated temperatures and pressures or may react with water with some release of energy, but not violently.



HMIS III Rating		
Health	:	2 Moderate Hazard - Temporary or minor injury may occur
Flammability	:	1 Slight Hazard - Materials that must be preheated before ignition will occur. Includes liquids, solids and semi solids having a flash point above 200 F. (Class IIIB)
Physical	:	1 Slight Hazard - Materials that are normally stable but can become unstable (self-react) at high temperatures and pressures. Materials may react non-violently with water or undergo hazardous polymerization in the absence of inhibitors.
Personal Protection	:	G G - Safety glasses, Gloves, Vapor respirator

SDS US (GHS HazCom 2012)

The information above is believed to be accurate and represents the best information currently available to us . However, we make no warranty of merchantability or any other warranty, expressed or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigation to determine the suitability of the information for their particular purposes.