SESSION XIX

INHALANTS

SESSION XIX INHALANTS

Upon successfully completing this session the student will be able to:

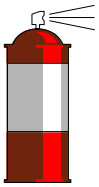
- Explain a brief history of the Inhalant category of drugs.
- Identify common drug names and terms associated with this category.
- Identify common methods of administration for this category.
- Describe the symptoms, observable signs and other effects associated with this category.
- Describe the typical time parameters, i.e. onset and duration of effects, associated with this category.
- List the clues that are likely to emerge when the drug evaluation and classification process is conducted for a person under the influence of this drug category.
- Correctly address the "topics for study" questions at the end of this session.

A. Overview of Inhalants

Inhalants include a wide variety of breathable chemicals that produce mind altering results. These substances are readily available in many households and can be purchased easily. Inhalants are sometimes called deliriants, in that they may produce delirium. Delirium is usually a brief state characterized by incoherent excitement, confused speech, restlessness and possible hallucinations. Depending on the nature of the particular Inhalant, the effects produced may be similar to those of stimulants, depressants, or hallucinogens.

There are three major subcategories of Inhalants: volatile solvents, aerosols and anesthetic gases.

The volatile solvents include a large number of readily available substances, none of which is intended by the manufacturer to be used as a drug. One of the most widely abused volatile solvents is plastic cement, or "model airplane glue". Plastic model cement includes the following volatile chemicals: toluene, acetone, naphtha, aliphatic acetates, hexane, cyclohexane, and benzene. Other frequently abused volatile solvents include: paint, gasoline, paint thinners, dry cleaning fluids, liquid correction fluid, engine degreasers, spray paint, and fingernail polish removers.



The aerosols are chemicals discharged from a pressurized container by the propellant force of a compressed gas. Commonly abused aerosols include hair sprays, deodorants, insecticides, Freon, glass chillers (freeze spray) and vegetable frying pan lubricants. Abused aerosols contain various hydrocarbon gases that produce drug effects.

The majority of abusers of volatile solvents and aerosols are pre-teens and teenagers.

The third subcategory, the anesthetic gases, includes substances that are less frequently abused than are volatile solvents or aerosols. The anesthetic gases are drugs that abolish pain, and they are used medically for that purpose during surgery. Anesthetic gases that are sometimes abused include ether, amyl nitrite, butyl nitrite, and isobutyl nitrite. Adults may be more frequent users of the anesthetic gases.

There is an important distinction between the anesthetic gases and the other two subcategories of Inhalants. The volatile solvents and the aerosols usually cause elevated blood pressure. But the anesthetic gases usually cause blood pressure to become lower than normal. Apparently, this is due to the fact that the anesthetic gases can dilate the blood vessels around the heart thus causing a lowered blood pressure. Pulse rate, however, usually is increased by all three subcategories of Inhalants.

Some Inhalant users prefer to put their Inhalants in a plastic bag, others soak rags or socks and then sniff the fumes. Many abusers use everyday items such as aluminum cans, balloons or other containers in an attempt to conceal their use and concentrate the fumes. Some common street names that Inhalant users use are, “Huffing”, “Hacking”, “Ballooning” and “Glading”.

B. Possible Effects of Inhalants

The effects of Inhalants vary from one substance to another. Common effects include:

- altered shapes and colors
- antagonistic behavior
- bizarre thoughts
- distorted perceptions of time and distance
- dizziness and numbness
- drowsiness and weakness
- euphoria and grandiosity
- floating sensation
- inebriation similar to alcohol intoxication
- intense headaches
- light-headedness
- nausea and excessive salivation
- possible hallucinations

In general, persons under the influence of Inhalants will appear confused and disoriented. Their speech usually will be slurred.

C. Onset and Duration of Inhalants' Effects

Inhalants' effects are felt virtually immediately. However, the duration of effects depends on the substance used. For example, glue, paint, gasoline and other commonly abused Inhalants usually produce effects that last from several minutes, up to eight hours depending on the substances abused and the duration of abuse. Nitrous oxide's effects typically last 5 minutes or less. The effects of amyl nitrite and butyl nitrite last from a few seconds to up to 20 minutes.

D. Signs and Symptoms of Inhalant Overdose

Some Inhalants will depress the central nervous system to the point where respiration ceases. Others can cause heart failure. Some Inhalant overdoses induce severe nausea and vomiting, and the unconscious user may drown in his or her own vomit. Others using bags to get high may pass out then suffocate with a bag over their face. Thus, there is a significant risk of death due to Inhalant abuse.

There is evidence that long term Inhalant abuse can cause:

- permanent damage to the central nervous system
- liver damage
- kidney damage
- bone and bone marrow damage
- greatly reduced mental and physical abilities

E. Expected Results of the Evaluation

When a person under the influence of Inhalants is examined by a drug recognition expert, the following results generally will be found.

Horizontal Gaze Nystagmus - present.

Vertical Gaze Nystagmus - present, high dose for that particular individual.

Lack of Convergence - present.

Pupil size - normal, but may be dilated with certain specific Inhalants (anesthetic gases).

Reaction to light - slow.

Romberg - subjects will exhibit impairment and will tend to sway when performing this test.

Walk and Turn - subjects will exhibit impairment and will often take slow deliberate steps and will commonly stagger.

One Leg Stand - subjects will exhibit impairment and will tend to sway when performing this test.

Finger To Nose - subjects will exhibit impairment and will tend to sway when performing this test.

Pulse rate - up.

Blood pressure - up or down. Volatile Solvents and Aerosols usually will cause elevated blood pressure, while Anesthetic Gases usually will lower the blood pressure.

Temperature - up, down or normal depending on the substance.

Muscle tone - flaccid or normal (Anesthetic Gases may cause muscles to be flaccid)

General Indicators:

- bloodshot, watery eyes
- confused
- disoriented appearance
- flaccid or normal muscle tone
- flushed face, possibly sweating
- intense headaches
- lack of muscle control
- non-communicative
- odor of the inhaled substance
- possible nausea
- residue of substance around face, nose, hands or clothing
- slow, thick, slurred speech

DRUG INFLUENCE EVALUATION

Evaluator: Sgt. Gerry Britt, Yarmouth PD	DRE #: 5479	Rolling Log #: 10-07-015	**Session XIX - #1**
Recorder/Witness: Sgt. Don Decker, Marblehead PD	Crash: ☒ None ☐ Fatal ☐ Injury ☐ Property		Case # 10-77997
Arrestee's Name (Last, First, Middle): Graves, James L.	Date of Birth: 6/8/88	Sex: M / Race: W	Arresting Officer (Name, ID#): Sgt. Deb Batista, Middleboro PD #6690
Date Examined / Time /Location: 07/01/10 2200 Middleboro PD	Breath Results: Results: 0.00	Test Refused ☐ Instrument #: 77880	Chemical Test: Urine ☐ Blood ☒ Test or tests refused ☐

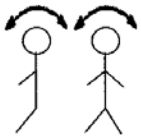
Miranda Warning Given: Given By: Sgt. Batista	☒ Yes ☐ No	What have you eaten today? When? Hamburger 6PM	What have you been drinking? How much? Coke N/A	Time of last drink? N/A
Time now/ Actual: 10 PM/10:10 PM	When did you last sleep? How long: Last night 6 hrs.	Are you sick or injured? ☐ Yes ☒ No	Are you diabetic or epileptic? ☐ Yes ☒ No	
Do you take insulin? ☐ Yes ☒ No	Do you have any physical defects? ☐ Yes ☒ No	Are you under the care of a doctor or dentist? ☐ Yes ☒ No		
Are you taking any medication or drugs? ☐ Yes ☒ No	Attitude: Cooperative	Coordination: Poor, unsteady, barely standing		
Speech: Slurred, mumbling	Breath Odor: Paint/chemical odor	Face: Paint residue on cheeks and chin		
Corrective Lenses: ☒ None ☐ Glasses ☐ Contacts, if so ☐ Hard ☐ Soft	Eyes: ☐ Reddened Conjunctiva ☐ Normal ☐ Bloodshot ☒ Watery	Blindness: ☒ None ☐ Left ☐ Right	Tracking: ☒ Equal ☐ Unequal	
Pupil Size: ☒ Equal ☐ Unequal (explain)	Vertical Nystagmus ☐ Yes ☒ No	Able to follow stimulus ☒ Yes ☐ No	Eyelids ☒ Normal ☐ Droopy	

Pulse and time	HGN	Left Eye	Right Eye
1. 104 / 2215	Lack of Smooth Pursuit	Yes	Yes
2. 102 / 2234	Maximum Deviation	Yes	Yes
3. 104 / 2250	Angle of Onset	30	30

Convergence: Right eye / Left eye

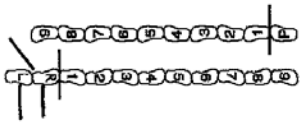
10 ONE LEG STAND

Romberg Balance



Test stopped

Walk and Turn test



Test stopped - could not stand

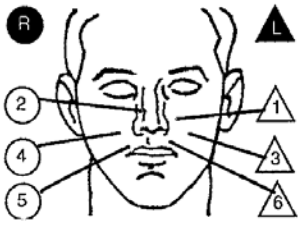
	1st Nine	2nd Nine
Cannot keep balance	✓✓✓	
Starts too soon		
Stops walking		
Misses heel-toe		
Steps off line		
Raises arms		
Actual steps taken		

L	R	
☑	☐	Sways while balancing
☑	☐	Uses arms to balance
☐	☐	Hopping
✓✓✓☑	☐	Puts foot down

Stopped - fell into wall

Internal clock: N/A estimated as 30 seconds	Describe Turn: N/A	Cannot do test (explain): Unable to stand heel to toe	Type of footwear: Athletic shoes

Draw lines to spots touched



Test administered in seated position

PUPIL SIZE	Room light 2.5 – 5.0	Darkness 5.0 – 8.5	Direct 2.0 – 4.5
Left Eye	4.0	6.5	3.5
Right Eye	4.0	6.5	3.5

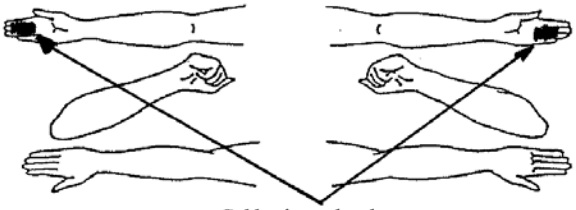
Nasal area: Red

Oral cavity: Odor of paint

REBOUND DILATION: ☐ Yes ☒ No

REACTION TO LIGHT: Slow

RIGHT ARM **LEFT ARM**



Gold paint on hands

Blood pressure: 140/100	Temperature: 98.6

Muscle tone: ☒ Normal ☐ Flaccid ☐ Rigid

Comments:

What drugs or medications have you been using? "I huffed some Gold."	How much? "The usual"	Time of use? 8PM	Where were the drugs used? (Location) In the park
Date / Time of arrest: 07/01/10 2130	Time DRE was notified: 2145	Evaluation start time: 2200	Evaluation completion time: 2310	Precinct/Station:
Officer's Signature:	DRE # 5479	Reviewed/approved by / date:		

Opinion of Evaluator: ☐ Rule Out ☐ Alcohol ☐ CNS Stimulant ☐ Dissociative Anesthetic ☒ Inhalant ☐ Medical ☐ CNS Depressant ☐ Hallucinogen ☐ Narcotic Analgesic ☐ Cannabis

DRUG INFLUENCE EVALUATION NARRATIVE

Suspect**:** Graves, James L.

1. **LOCATION:** The evaluation was conducted at the Middleboro Police Department.

2. **WITNESSES:** Sgt. Don Decker of the Marblehead P.D. witnessed the evaluation.

3. **BREATH ALCOHOL TEST:** Graves had a breath test of 0.00%.

4. **NOTIFICATION AND INTERVIEW OF THE ARRESTING OFFICER:** Writer was requested to contact Sergeant Batista at the Middleboro Police Department for a drug evaluation. Sgt. Batista advised she arrested Graves for DUI after observing him fail to stop at a red traffic light at Main and Wareham Street. The suspect was cooperative but appeared dazed. He performed poorly on the SFST's and was arrested for DUI. A can of gold spray paint was located in the front seat of the suspect's vehicle along with paint soaked rags.

5. **INITIAL OBSERVATION OF SUSPECT:** Writer first observed the suspect in the interview room at the P.D. He appeared passive and dazed. He had very poor coordination and balance. Gold paint smears were visible on his hands and face.

6. **MEDICAL PROBLEMS AND TREATMENT:** None noted or stated.

7. **PSYCHOPHYSICAL TESTS:** Romberg Balance: The suspect was unable to perform the test and it was stopped for safety reasons. Walk & Turn: The suspect lost his balance three times and the test was stopped for safety reasons. One Leg Stand: The suspect put his foot down three times while standing on the left foot and the test was stopped. He was unable to perform the test when attempting to stand on the right foot and the test was stopped for safety reasons. Finger to Nose: The suspect was allowed to sit down for this test. He used the palm of his hands and touched in the general area of his nose.

8. **CLINICAL INDICATORS:** The suspect had six clues of HGN and a Lack of Convergence. His pulse and blood pressure were above the normal ranges.

9. **SIGNS OF INGESTION:** Paint-like odor on his breath. Paint smears on hands and face.

10. **SUSPECT'S STATEMENTS:** Suspect admitted "huffing" some gold paint in the park to celebrate the 4th of July.

11. **DRE'S OPINION:** In my opinion Graves is under the influence of an Inhalant and unable to operate a vehicle safely.

12. **TOXICOLOGICAL SAMPLE:** The suspect provided a blood sample.

13. **MISCELLANEOUS:**

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DRUG INFLUENCE EVALUATION

Evaluator: Trooper Marc Griggs, Iowa State Patrol	DRE #: 8102	Rolling Log #: 10-08-20	**Session XIX - #2**
Recorder/Witness: Sgt. Russ Belz, Story Co. S.O.	Crash: ☒ None ☐ Fatal ☐ Injury ☐ Property		Case # 10-12859
Arrestee's Name (Last, First, Middle): Mashburn, Cathy L.	Date of Birth: 9/1/88	Sex: F / Race: W	Arresting Officer (Name, ID#): Deputy Dan Grimm, Polk Co. S.O. #3538
Date Examined / Time /Location: 08/07/10 2335 Polk Co. Jail	Breath Results: Results: 0.00	Test Refused ☐ Instrument #: 16670	Chemical Test: Urine ☒ Blood ☐ Test or tests refused ☐

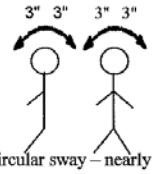
Miranda Warning Given: ☒ Yes ☐ No Given By: Dpty. Grimm	What have you eaten today? When? Pizza After work	What have you been drinking? How much? Wine coolers "A couple"	Time of last drink? 7 PM	
Time now/ Actual 9pm/8:10 pm	When did you last sleep? How long Last night 7 hrs.	Are you sick or injured? ☒ Yes ☐ No "I feel dizzy"	Are you diabetic or epileptic? ☐ Yes ☒ No	
Do you take insulin? ☐ Yes ☒ No	Do you have any physical defects? ☐ Yes ☒ No	Are you under the care of a doctor or dentist? ☐ Yes ☒ No		
Are you taking any medication or drugs? ☐ Yes ☒ No	Attitude: Cooperative, slow to respond	Coordination: Poor, staggering at times		
Speech: Slow, slurred	Breath Odor: Paint-like odor	Face: Flushed		
Corrective Lenses: ☒ None ☐ Glasses ☐ Contacts, if so ☐ Hard ☐ Soft	Eyes: ☐ Reddened Conjunctiva ☐ Normal ☒ Bloodshot ☒ Watery	Blindness: ☒ None ☐ Left ☐ Right	Tracking: ☒ Equal ☐ Unequal	
Pupil Size: ☒ Equal ☐ Unequal (explain)	Vertical Nystagmus ☐ Yes ☒ No	Able to follow stimulus ☒ Yes ☐ No	Eyelids ☒ Normal ☐ Droopy	

Pulse and time	HGN	Left Eye	Right Eye
1. 100 / 2042	Lack of Smooth Pursuit	Yes	Yes
2. 100 / 2105	Maximum Deviation	Yes	Yes
3. 96 / 2120	Angle of Onset	35	35

Convergence: Right eye ✓ Left eye ✓

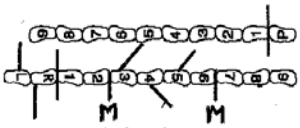
5 ONE LEG STAND

Romberg Balance



Circular sway – nearly fell

Walk and Turn test



Test stopped after six steps

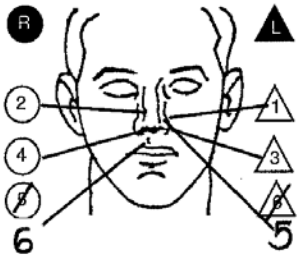
	1st Nine	2nd Nine
Cannot keep balance	✓✓	
Starts too soon		
Stops walking		
Misses heel-toe	✓✓	
Steps off line	✓✓✓	
Raises arms	✓✓	
Actual steps taken	6	

L	R	
✓	☐	Sways while balancing
✓	☐	Uses arms to balance
☐	☐	Hopping
✓	☐	Puts foot down

Test stopped

Internal clock 19 estimated as 30 seconds	Describe Turn N/A	Cannot do test (explain) Stopped - nearly fell	Type of footwear: Sandals

Draw lines to spots touched



PUPIL SIZE	Room light 2.5 – 5.0	Darkness 5.0 – 8.5	Direct 2.0 – 4.5
Left Eye	5.0	6.5	4.5
Right Eye	5.0	6.5	4.5

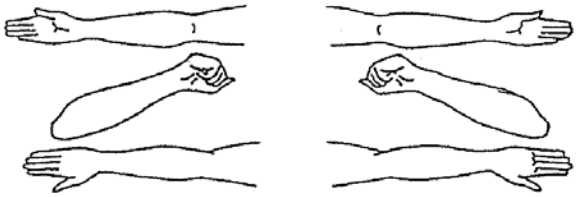
Nasal area: Runny nose, red

Oral cavity: Paint like odor

REBOUND DILATION: ☐ Yes ☒ No

REACTION TO LIGHT: Normal

RIGHT ARM **LEFT ARM**



Nothing observed

Blood pressure 146/104	Temperature 98.8

Muscle tone: ☒ Normal ☐ Flaccid ☐ Rigid

Comments:

What drugs or medications have you been using? "I don't do drugs."	How much? N/A	Time of use? Refused	Where were the drugs used? (Location) Refused
Date / Time of arrest: 08/07/10 1945	Time DRE was notified: 2005	Evaluation start time: 2035	Evaluation completion time: 2140
Officer's Signature:	DRE # 8102	Reviewed/approved by / date:	Precinct/Station:

Opinion of Evaluator: ☐ Rule Out ☐ Alcohol ☐ CNS Stimulant ☐ Dissociative Anesthetic ■ Inhalant ☐ Medical ☐ CNS Depressant ☐ Hallucinogen ☐ Narcotic Analgesic ☐ Cannabis

DRUG INFLUENCE EVALUATION NARRATIVE

Suspect**:** Mashburn, Cathy

1. **LOCATION:** The evaluation was conducted at the Polk County Jail.

2. **WITNESSES:** The evaluation was witnessed and recorded by Sergeant Russ Belz of the Story County Sheriff's Office.

3. **BREATH ALCOHOL TEST:** Mashburn's breath test was 0.00%.

4. **NOTIFICATION AND INTERVIEW OF THE ARRESTING OFFICER:** Writer was notified by radio to contact Deputy Grimm at the Polk County Jail for a drug evaluation. Deputy Grimm advised he arrested Mashburn after observing her pull out in front of oncoming traffic nearly causing a crash. The suspect was cooperative but slow to respond to questions. She performed poorly on the SFST's and was arrested for DUI. After arresting her, Deputy Grimm located a can of paint remover and several rags in her vehicle.

5. **INITIAL OBSERVATION OF SUSPECT:** Writer first observed the suspect in the interview room at the jail. Her speech was slow and slurred. Her coordination was poor and she staggered several times. Her eyes were watery and bloodshot.

6. **MEDICAL PROBLEMS AND TREATMENT:** The suspect stated she felt dizzy.

7. **PSYCHOPHYSICAL TESTS:** Romberg Balance: The suspect had an approximate 3" circular sway and she estimated 30 seconds in 19 seconds. Walk & Turn: The suspect lost her balance twice during the instructions, staggered and nearly fell. The test was stopped after six steps when she again nearly fell. One Leg Stand: After putting her right foot down three times and nearly falling, the test was stopped. Finger to Nose: The suspect had difficulty with this test. She touched the tip of her nose on one of the six attempts. She also used the wrong hand on attempts #5 and #6.

8. **CLINICAL INDICATORS:** The suspect had six clues of HGN and a Lack of Convergence. Her pulse and blood pressure were above the normal ranges.

9. **SIGNS OF INGESTION:** The suspect had a red, runny nose. Her eyes were bloodshot and watery. She also had a paint-like odor on her breath and clothing.

10. **SUSPECT'S STATEMENTS:** Suspect admitted drinking a "couple of wine coolers" but denied using any other substances.

11. **DRE'S OPINION:** In my opinion Mashburn is under the influence of an Inhalant and unable to operate a vehicle safely.

12. **TOXICOLOGICAL SAMPLE:** The suspect provided a urine sample.

13. **MISCELLANEOUS:**

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Topics for Study

1. What are the three major subcategories of Inhalants?

2. What are some of the principal active ingredients in many volatile substances?

3. In what important respect do the effects of Anesthetic Gases differ from the effects of Volatile Solvents and Aerosols?

4. Do any of the subcategories of Inhalants cause pulse rate to decrease?

5. The effects of Amyl Nitrite and Butyl Nitrite last from a few seconds to up to _____ minutes.