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*Drugs and Human Performance Fact Sheets* are compilations of facts on 16 commonly used and abused drugs, both illicit and licit, some prescription drugs and a few over-the-counter drugs. These fact sheets include information such as psychopharmacology as well as the specific effects each drug has on driving. These fact sheets are the result of the deliberations of the International Consultative Panel on Drugs and Driving Impairment held in Seattle, Washington, in August 2000. The National Safety Council (Committee on Alcohol and other Drugs), the State of Washington Traffic Safety Commission, and the National Highway Traffic Safety Administration sponsored this meeting.

The use of psychoactive drugs followed by driving has been an issue of continual concern to law enforcement officers, physicians, forensic toxicologists, and traffic safety professionals in the United States and throughout the world. Specifically, professionals are concerned with methods for identifying impaired drivers on the road, the assessment and documentation of the impairment they display, the availability of appropriate chemical tests, and the interpretation of the subsequent results.

The panel of international experts on drug-impaired driving reviewed developments in the field of drugs and human performance over the last 10 years, identified specific effects that both illicit and prescription drugs have on driving, and developed guidance for others when dealing with drug-impaired driving problems. Delegates represented the fields of psychopharmacology, behavioral psychology, drug chemistry, forensic toxicology, medicine, and law enforcement experts trained in the recognition of drug-impaired drivers.

The expert panel selected 16 drugs for review including over-the-counter medications, prescription drugs, and illicit or abused drugs. The selected drugs were:

- carisoprodol (e.g., Soma)
- cocaine
- dextromethorphan (e.g., some Robitussin cough and cold products)
- diazepam (e.g., Valium)
- diphenhydramine (e.g., Benadryl)
- gammahydroxybutyrate (GHB) (the so-called "date rape" drug)
- ketamine ("Special K" or "Super K")
- lysergic acid diethylamide (LSD)
- marijuana
- methadone
- methamphetamine/amphetamine
- methylenedioxymethamphetamine (MDMA; ecstasy)
- morphine/heroin
- phencyclidine (PCP)
- toluene
- zolpidem (Ambien)

The expert panel based the fact sheets on the state of current scientific knowledge. These fact sheets will provide practical guidance to toxicologists, pharmacologists, law enforcement officers, prosecutors and the general public on issues related to drug impaired driving. Readers are strongly encouraged to supplement the fact sheets with more detailed information cited at the end of each fact sheet, when such detail is needed.

Each individual drug fact sheet covers information regarding drug chemistry, usage, and dosage information, pharmacology, drug effects, effects on driving, as well as the Drug Evaluation and Classification (DEC) program categorization. The panel's assessment of driving risks is also reported.

The following information is uniform to all of the drug fact sheets.

#### Drug Chemistry

- Physical description
- Pharmaceutical or illicit source
- Synonyms

### Medical and Dosage Information

- Drug class
- Potency and purity
- Typical routes of administration
- Medical and recreational uses
- Recommended and abused doses

### Pharmacology

- Pharmacodynamics (mechanism of drug action, major receptor sites)
- Pharmacokinetics (drug absorption, metabolism, and elimination)
- Blood and urine concentrations

### Drug Effects

- Psychological and physiological effects
- Duration of effects
- Withdrawal effects
- Side effects
- Drug tolerance and dependence
- Drug interactions

### Effects on Driving

- Performance effects (clinical and laboratory studies)
- Driving simulator studies
- Epidemiology studies

### Drug Evaluation and Classification (DEC)

1. Drug category
2. Typical DEC profile

### Panel's Assessment of driving risks

- General conclusions

### References

- Key references and recommended reading

### Limitations of the Fact Sheets

Professionals should approach case interpretation with caution, as a number of factors may complicate each case. One of the main limitations of the fact sheets is that they primarily relate to single drug use. Other factors that influence the risk of effects on driving for any drug include the dose, the dosage frequency, acute and residual effects, chronic administration, route of administration, the concentration of the drug at the site of action, idiosyncrasies of metabolism, drug tolerance or hypersensitivity, and the combined effects of the drug with other drugs and alcohol. Despite limitations, these drug fact sheets will provide much needed guidance to professionals concerned with identification and assessment of drug-impaired individuals who drive.

### How To Order

To order *Drugs and Human Performance Fact Sheets*, prepared by the International Consultative Panel on Drugs and Driving Impairment, write to the Office of Research and Technology, NHTSA, NHT-130, 400 Seventh Street, SW., Washington, DC 20590, fax 202-366-7096 or download from [www.nhtsa.dot.gov](http://www.nhtsa.dot.gov). James F. Frank, Ph.D., was the contract manager.

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