and <0.1% among those age 26 and older. Prevalence is higher in U.S. clinical samples (e.g., 19% in adolescents in treatment), and among select groups of individuals who use hallucinogens frequently (e.g., recent heavy ecstasy use) in the United States and Australia, 73.5% of adults and 77% of adolescents have a problematic pattern of use that may meet other hallucinogen use disorder criteria.

Development and Course

Prevalence of other hallucinogen use disorder by age among adolescents is unknown. Among U.S. adults age 18 years and older, most (90%) of those with other hallucinogen use disorder are ages 18–29, suggesting that the disorder is not often persistent and is concentrated in young adults.

Risk and Prognostic Factors

Temperamental. The use of specific hallucinogens (i.e., ecstasy, salvia) has been linked with high sensation-seeking.

Environmental. On the basis of research in the United States, environmental risk factors of other hallucinogen use disorder include higher income, lower education, being never married, and residing in urban areas. Early onset of hallucinogen use has also been linked to transition to hallucinogen use disorder. Peer use of other drugs is also highly associated with ecstasy and salvia use.

Genetic and physiological. Among male twins, total variance due to additive genetics has been estimated to range from 26% to 79%, with inconsistent evidence for shared environmental influences.

Culture-Related Diagnostic Issues

Historically, hallucinogens have been used as part of established religious or spiritual practices, such as the use of peyote in the Native American Church and in Mexico. Ritual use by Indigenous populations of psilocybin obtained from certain types of mushrooms has occurred in South America, Mexico, and some areas in the United States, or of ayahuasca in the Santo Daime and União de Vegetal religious groups.

Sex- and Gender-Related Diagnostic Issues

Among U.S. adolescents, boys have greater 12-month prevalence rates of other hallucinogen use than girls, and these gender differences extend to specific hallucinogens, including LSD, MDMA, psilocybin, and salvia divinorum. Among U.S. adults, 60% of individuals with other hallucinogen use disorder are men. International research suggests that women administered MDMA may have greater subjective effects, such as altered state of consciousness, anxiety, and depression. No information from international studies is available regarding gender differences for other hallucinogen use disorder.

Diagnostic Markers

Laboratory testing can be useful in distinguishing among the different hallucinogens. However, because some agents (e.g., LSD) are so potent that as little as 75 micrograms can produce severe reactions, typical toxicological examination will not always reveal which substance has been used.

Functional Consequences of Other Hallucinogen Use Disorder

Although insufficient information exists to clearly note the functional consequences of other hallucinogen use disorder, complications of use of these substances have been iden-

tified. Adverse effects of other hallucinogen use include those related to intoxication, such as hyperthermia, cardiac tachyarrhythmias, pneumothorax hypernatremia, motor incoordination, nystagmus, restlessness, hallucinations/delusions, mydriasis, increased alertness, and high blood pressure. Other more serious reactions related to consequences of repeated use of other hallucinogens include renal failure, hepatic failure, seizures, cerebral infarction, rhabdomyolysis, cardiac complications, and hepatotoxicity.

There is evidence for persisting neurotoxic effects of MDMA/ecstasy use, including impairments in memory, psychological function, and neuroendocrine function; serotonin system dysfunction; and sleep disturbance; as well as adverse effects on brain microvasculature, white matter maturation, and damage to axons.

Differential Diagnosis

Other substance disorders. The effects of hallucinogen use must be distinguished from those of other substances (e.g., amphetamine use disorder, alcohol or sedative withdrawal), especially because contamination of the hallucinogens with other drugs is relatively common.

Hallucinogen intoxication and hallucinogen-induced mental disorders. Hallucinogen use disorder is differentiated from hallucinogen intoxication and hallucinogen-induced mental disorders (e.g., hallucinogen-induced psychotic disorder) in that hallucinogen use disorder describes a problematic pattern of hallucinogen use that involves impaired control over hallucinogen use, social impairment attributable to hallucinogen use, risky hallucinogen use (e.g., driving while intoxicated), and pharmacological symptoms (the development of tolerance), whereas hallucinogen intoxication and hallucinogen-induced mental disorders describe psychiatric syndromes that occur in the context of heavy use. Hallucinogen intoxication and hallucinogen-induced mental disorders occur frequently in individuals with hallucinogen use disorder. In such cases, a diagnosis of hallucinogen intoxication or a hallucinogen-induced mental disorder should be given in addition to a diagnosis of hallucinogen use disorder, the presence of which is indicated in the diagnostic code.

Independent mental disorders. Some of the effects of hallucinogen use may resemble symptoms of independent psychiatric disorders, such as schizophrenia and depressive and bipolar disorders. Discerning whether symptoms occurred before the intake of the drug is important in the differentiation of acute drug effects from a preexisting mental disorder. In particular, schizophrenia should be ruled out, as some affected individuals (e.g., individuals with schizophrenia who exhibit paranoia) may falsely attribute their symptoms to use of hallucinogens.

Comorbidity

Other hallucinogen use disorder is highly associated with cocaine use disorder, stimulant use disorder, other substance use disorder, tobacco (nicotine) use disorder, any personality disorder, posttraumatic stress disorder, and panic attacks.

Phencyclidine Intoxication

Diagnostic Criteria

A. Recent use of phencyclidine (or a pharmacologically similar substance).
B. Clinically significant problematic behavioral changes (e.g., belligerence, assaultiveness, impulsiveness, unpredictability, psychomotor agitation, impaired judgment) that developed during, or shortly after, phencyclidine use.

C. Within 1 hour, two (or more) of the following signs or symptoms:
Note: When the drug is smoked, "snorted," or used intravenously, the onset may be particularly rapid.
   1. Vertical or horizontal nystagmus.
   2. Hypertension or tachycardia.
   3. Numbness or diminished responsiveness to pain.
   4. Ataxia.
   5. Dysarthria.
   6. Muscle rigidity.
   7. Seizures or coma.
   8. Hyperacusis.

D. The signs or symptoms are not attributable to another medical condition and are not better explained by another mental disorder, including intoxication with another substance.

Coding note: The ICD-10-CM code depends on whether there is a comorbid phencyclidine use disorder. If a mild phencyclidine use disorder is comorbid, the ICD-10-CM code is **F16.120,** and if a moderate or severe phencyclidine use disorder is comorbid, the ICD-10-CM code is **F16.220.** If there is no comorbid phencyclidine use disorder, then the ICD-10-CM code is **F16.920.**

Note: In addition to the section "Functional Consequences of Phencyclidine Intoxication," see the corresponding section in Phencyclidine Use Disorder.

Diagnostic Features

Phencyclidine intoxication reflects the clinically significant behavioral changes that occur shortly after ingestion of this substance (or a pharmacologically similar substance). The most common clinical presentations of phencyclidine intoxication include disorientation; confusion without hallucinations; nystagmus; numbness or diminished responsiveness to pain; ataxia; dysarthria; muscle rigidity; hyperacusis; and coma of varying severity. Other clinically significant behavioral changes associated with phencyclidine intoxication include violent behavior, extreme agitation, persecutory delusions, euphoria, retrograde amnesia, and hypertension.

Prevalence

Use of phencyclidine or related substances (e.g., ketamine) may be taken as an estimate of the prevalence of intoxication. Phencyclidine use is rare, with <0.1% of the U.S. population age 12 and older reporting past 12-month use in 2018. In surveys of U.S. students and young adults followed up from high school, past 12-month prevalence of ketamine use, which is assessed separately from other substances, was estimated at about 1.2% among 12th graders and 0.5% among young adults, ages 19–28 years.

Diagnostic Markers

Laboratory testing may be useful, as phencyclidine is detectable in urine for up to 8 days following use, although the levels are only weakly associated with an individual's clinical presentation and may therefore not be useful for case management. Creatine phosphokinase and aspartate aminotransferase levels may be elevated.

Functional Consequences of Phencyclidine Intoxication

Phencyclidine intoxication produces extensive cardiovascular and neurological (e.g., seizures, dystonias, dyskinesias, catalepsy, hypothermia or hyperthermia) toxicity.

Differential Diagnosis

In particular, in the absence of intact reality testing (i.e., without insight that the perceptual abnormalities are drug induced), an additional diagnosis of phencyclidine-induced psychotic disorder should be considered.

Other substance intoxication. Phencyclidine intoxication should be differentiated from intoxication due to other substances, including other hallucinogens; amphetamine, cocaine, or other stimulants; and anticholinergics, as well as withdrawal from benzodiazepines. Nystagmus and bizarre and violent behavior may distinguish intoxication due to phencyclidine from that due to other substances. Toxicological tests may be useful in making this distinction. However, the weak correlation between quantitative toxicology levels of phencyclidine and clinical presentation may diminish the utility of the laboratory findings for patient management.

Phencyclidine-induced mental disorders. Phencyclidine intoxication is distinguished from phencyclidine-induced mental disorders (e.g., phencyclidine-induced depressive disorder, with onset during intoxication) because the symptoms (e.g., depressed mood) in the latter disorders are in excess of those usually associated with phencyclidine intoxication, predominate in the clinical presentation, and are severe enough to warrant clinical attention.

Other medical conditions. Medical conditions to be considered include certain metabolic disorders like hypoglycemia and hyponatremia, central nervous system tumors, seizure disorders, sepsis, neuroleptic malignant syndrome, and vascular insults.

Comorbidity

Given the typical overlap of phencyclidine intoxication with phencyclidine use disorder, see "Comorbidity" under Phencyclidine Use Disorder for more details about co-occurring conditions that are likely to be encountered.

Other Hallucinogen Intoxication

Diagnostic Criteria

A. Recent use of a hallucinogen (other than phencyclidine).
B. Clinically significant problematic behavioral or psychological changes (e.g., marked anxiety or depression, ideas of reference, fear of "losing one's mind," paranoid ideation, impaired judgment) that developed during, or shortly after, hallucinogen use.
C. Perceptual changes occurring in a state of full wakefulness and alertness (e.g., subjective intensification of perceptions, depersonalization, derealization, illusions, hallucinations, synesthesias) that developed during, or shortly after, hallucinogen use.
D. Two (or more) of the following signs developing during, or shortly after, hallucinogen use:
    1. Pupillary dilation.
    2. Tachycardia.
    3. Sweating.
    4. Palpitations.
    5. Blurring of vision.
    6. Tremors.
    7. Incoordination.
E. The signs or symptoms are not attributable to another medical condition and are not better explained by another mental disorder, including intoxication with another substance.

Coding note: The ICD-10-CM code depends on whether there is a comorbid hallucinogen use disorder. If a mild hallucinogen use disorder is comorbid, the ICD-10-CM code is **F16.120,** and if a moderate or severe hallucinogen use disorder is comorbid, the ICD-10-CM code is **F16.220.** If there is no comorbid hallucinogen use disorder, then the ICD-10-CM code is **F16.920.**

Note: For information on Associated Features and Culture-Related Diagnostic Issues, see the corresponding sections in Other Hallucinogen Use Disorder.

Diagnostic Features

Other hallucinogen intoxication reflects the clinically significant behavioral or psychological changes that occur shortly after ingestion of a hallucinogen. Depending on the specific hallucinogen, the intoxication may last only minutes (e.g., for salvia) or several hours or longer (e.g., for LSD [lysergic acid diethylamide] or MDMA [3,4-methylenedioxymethamphetamine]).

Prevalence

The prevalence of other hallucinogen intoxication is not fully known but may be approximated based on the prevalence of use of the substances. In 2018, 1.5% of individuals ages 12–17 years in the United States reported use of hallucinogens in the past year; among individuals ages 18–25, the rate was 6.9%, and among those age 26 or older, the rate was 1.3%. Rates were consistently higher for boys and men than for girls and women in every age group.

Association With Suicidal Thoughts or Behavior

Other hallucinogen intoxication may lead to increased suicidal thoughts or behavior, although suicide is rare among individuals who use hallucinogens. Of note, a study of more than 135,000 randomly selected U.S. adults, including more than 19,000 individuals who use psychedelics, did not find evidence, after adjustment for sociodemographics, other drug use, and childhood depression, that lifetime psychedelic use is an independent risk factor for mental health problems, suicidal thoughts, or suicide attempts. In addition, one large U.S. population survey found that a lifetime history of hallucinogen use was associated with lower odds of mental distress and suicidal thoughts or behavior, although a causal relationship between hallucinogenic drugs and lower distress cannot be inferred from this study. On the basis of these findings, the relationship of other hallucinogen use to suicidal thoughts and behaviors is uncertain.

Functional Consequences of Other Hallucinogen Intoxication

Other hallucinogen intoxication can have serious consequences. The perceptual disturbances and impaired judgment associated with other hallucinogen intoxication can result in injuries or fatalities from automobile crashes, physical fights, or unintentional self-injury (e.g., cuts or falls from impaired depth perception). When other hallucinogens are consumed in combination with other drugs (including alcohol), coma can occur, with the duration and profundity of coma greater than when other hallucinogens are taken alone. Continued use of hallucinogens, particularly MDMA, has also been linked with neurotoxic effects. Adverse effects of other hallucinogen use include hyperthermia, cardiac tachyarrhythmias, pneumothorax hypernatremia, motor incoordination, nystagmus, restlessness, hallucinations/delusions, mydriasis, increased alertness, and high blood pressure. More serious reactions include renal failure, hepatic failure, seizures, cerebral infarction, rhabdomyolysis, cardiac complications, and hepatotoxicity.

Differential Diagnosis

Other substance intoxication. Other hallucinogen intoxication should be differentiated from intoxication with amphetamine-type substances, cocaine, or other stimulants; anticholinergics, inhalants, and phencyclidine. Toxicological tests are useful in making this distinction, and determining the route of administration may also be useful.

Other conditions. Other disorders and conditions to be considered include schizophrenia, depression, withdrawal from other drugs (e.g., sedatives, alcohol), certain metabolic disorders (e.g., hypoglycemia), seizure disorders, tumors of the central nervous system, and vascular insults.

Hallucinogen persisting perception disorder. Other hallucinogen intoxication is distinguished from hallucinogen persisting perception disorder because the symptoms in the latter continue episodically or continuously for weeks (or longer) after the most recent intoxication.

Hallucinogen-induced mental disorders. Other hallucinogen intoxication is distinguished from hallucinogen-induced mental disorders (e.g., hallucinogen-induced anxiety disorder, with onset during intoxication) because the symptoms (e.g., anxiety) in these latter disorders are in excess of those usually associated with other hallucinogen intoxication, predominate in the clinical presentation, and are severe enough to warrant independent clinical attention.

Comorbidity

Given the typical overlap of other hallucinogen intoxication with other hallucinogen use disorder, see "Comorbidity" under Other Hallucinogen Use Disorder for more details about co-occurring conditions that are likely to be encountered.

Hallucinogen Persisting Perception Disorder

Diagnostic Criteria F16.983

A. Following cessation of use of a hallucinogen, the reexperiencing of one or more of the perceptual symptoms that were experienced while intoxicated with the hallucinogen (e.g., geometric hallucinations, false perceptions of movement in the peripheral visual fields, flashes of color, intensified colors, trails of images of moving objects, positive afterimages, halos around objects, macropsia and micropsia).

B. The symptoms in Criterion A cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.

C. The symptoms are not attributable to another medical condition (e.g., anatomical lesions and infections of the brain, visual epilepsies) and are not better explained by another mental disorder (e.g., delirium, major neurocognitive disorder, schizophrenia) or hypnopompic hallucinations.

Diagnostic Features

The hallmark of hallucinogen persisting perception disorder is the reexperiencing, when the individual is sober, of the perceptual disturbances that were experienced while the individual was intoxicated with the hallucinogen (Criterion A). The symptoms may include any perceptual perturbations, but visual disturbances tend to be predominant. Typical of the abnormal visual perceptions are geometric hallucinations, false perceptions of move-

ment in the peripheral visual fields, flashes of color, intensified colors, trails of images of moving objects (i.e., images left suspended in the path of a moving object as seen in stroboscopic photography), perceptions of entire objects, visual snow, positive afterimages (i.e., a same-colored or complementary-colored "shadow" of an object remaining after removal of the object), halos around objects, or misperception of images as too large (macropsia) or too small (micropsia). Duration of the visual disturbances may be episodic or nearly continuous and must cause clinically significant distress or impairment in social, occupational, or other important areas of functioning (Criterion B). The disturbances may last for weeks, months, or years. Other explanations for the disturbances (e.g., brain lesions, preexisting psychosis, seizure disorders, migraine aura without headaches) must be ruled out (Criterion C).

Hallucinogen persisting perception disorder occurs primarily after LSD (lysergic acid diethylamide) use, but not exclusively. There does not appear to be a strong correlation between hallucinogen persisting perception disorder and number of occasions of hallucinogen use, with some instances of hallucinogen persisting perception disorder occurring in individuals with minimal exposure to hallucinogens. Some instances of hallucinogen persisting perception disorder may be triggered by use of other substances (e.g., cannabis or alcohol), adaptation to dark environments, exercise, and exposure to noise and photophobia.

Associated Features

Reality testing remains intact in individuals with hallucinogen persisting perception disorder (i.e., the individual is aware that the disturbance is linked to the effect of the drug). If this is not the case, another disorder might better explain the abnormal perceptions.

Prevalence

Prevalence estimates of hallucinogen persisting perception disorder are unknown. Initial prevalence estimates of the disorder among individuals who use hallucinogens is approximately 4.2%.

Development and Course

Little is known about the development of hallucinogen persisting perception disorder. Its course, as suggested by its name, is persistent, lasting for weeks, months, or even years in certain individuals.

Risk and Prognostic Factors

There is little evidence regarding risk factors for hallucinogen persisting perception disorder, although genetic factors have been suggested as a possible explanation underlying the susceptibility to LSD effects in this condition.

Functional Consequences of Hallucinogen Persisting Perception Disorder

Although hallucinogen persisting perception disorder remains a chronic condition in some cases, many individuals with the disorder are able to suppress the disturbances and continue to function normally.

Differential Diagnosis

Conditions to be ruled out include schizophrenia, other drug effects, neurodegenerative disorders, stroke, brain tumors, infections, and head trauma. Neuroimaging results in hallucinogen persisting perception disorder cases are typically negative. As noted earlier, reality testing remains intact (i.e., the individual is aware that the disturbance is linked to the

effect of the drug); if this is not the case, another disorder (e.g., psychotic disorder, another medical condition) might better explain the abnormal perceptions.

Comorbidity

Common comorbid mental disorders accompanying hallucinogen persisting perception disorder are panic disorder, alcohol use disorder, major depressive disorder, bipolar I disorder, and schizophrenia spectrum disorders.

Phencyclidine-Induced Mental Disorders

Other phencyclidine-induced mental disorders are described in other chapters of the manual with disorders with which they share phenomenology (see the substance/medication-induced mental disorders in these chapters): phencyclidine-induced psychotic disorder ("Schizophrenia Spectrum and Other Psychotic Disorders"); phencyclidine-induced bipolar and related disorder ("Bipolar and Related Disorders"); phencyclidine-induced depressive disorder ("Depressive Disorders"); and phencyclidine-induced anxiety disorder ("Anxiety Disorders"). For phencyclidine-induced intoxication delirium and delirium induced by ketamine taken as prescribed, see the criteria and discussion of delirium in the chapter "Neurocognitive Disorders." These phencyclidine-induced mental disorders are diagnosed instead of phencyclidine intoxication only when the symptoms are sufficiently severe to warrant independent clinical attention.

Hallucinogen-Induced Mental Disorders

The following other hallucinogen-induced mental disorders are described in other chapters of the manual with disorders with which they share phenomenology (see the substance/medication-induced mental disorders in these chapters): other hallucinogen–induced psychotic disorder ("Schizophrenia Spectrum and Other Psychotic Disorders"); other hallucinogen–induced bipolar and related disorder ("Bipolar and Related Disorders"); other hallucinogen–induced depressive disorder ("Depressive Disorders"); and other hallucinogen–induced anxiety disorder ("Anxiety Disorders"). For other hallucinogen intoxication delirium and delirium induced by other hallucinogens taken as prescribed, see the criteria and discussion of delirium in the chapter "Neurocognitive Disorders." These hallucinogen-induced mental disorders are diagnosed instead of other hallucinogen intoxication only when the symptoms are sufficiently severe to warrant independent clinical attention.

Unspecified Phencyclidine-Related Disorder

F16.99

This category applies to presentations in which symptoms characteristic of a phencyclidine-related disorder that cause clinically significant distress or impairment in social, occupational, or other important areas of functioning predominate but do not meet the full criteria for any specific phencyclidine-related disorder or any of the disorders in the substance-related and addictive disorders diagnostic class.

Unspecified Hallucinogen-Related Disorder

F16.99

This category applies to presentations in which symptoms characteristic of a hallucinogen-related disorder that cause clinically significant distress or impairment in social, occupational, or other important areas of functioning predominate but do not meet the full criteria for any specific hallucinogen-related disorder or any of the disorders in the substance-related and addictive disorders diagnostic class.

Inhalant-Related Disorders

Inhalant Use Disorder
Inhalant Intoxication
Inhalant-Induced Mental Disorders
Unspecified Inhalant-Related Disorder

Inhalant Use Disorder

Diagnostic Criteria

A. A problematic pattern of use of a hydrocarbon-based inhalant substance leading to clinically significant impairment or distress, as manifested by at least two of the following, occurring within a 12-month period:

1. The inhalant substance is often taken in larger amounts or over a longer period than was intended.
2. There is a persistent desire or unsuccessful efforts to cut down or control use of the inhalant substance.
3. A great deal of time is spent in activities necessary to obtain the inhalant substance, use it, or recover from its effects.
4. Craving, or a strong desire or urge to use the inhalant substance.
5. Recurrent use of the inhalant substance resulting in a failure to fulfill major role obligations at work, school, or home.
6. Continued use of the inhalant substance despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of its use.
7. Important social, occupational, or recreational activities are given up or reduced because of use of the inhalant substance.
8. Recurrent use of the inhalant substance in situations in which it is physically hazardous.
9. Use of the inhalant substance is continued despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by the substance.
10. Tolerance, as defined by either of the following:
    a. A need for markedly increased amounts of the inhalant substance to achieve intoxication or desired effect.
    b. A markedly diminished effect with continued use of the same amount of the inhalant substance.

Specify **the particular inhalant:** When possible, the particular substance involved should be named (e.g., "solvent use disorder").

Specify if:

In early remission: After full criteria for inhalant use disorder were previously met, none of the criteria for inhalant use disorder have been met for at least 3 months but for less than 12 months (with the exception that Criterion A4, "Craving, or a strong desire or urge to use the inhalant substance," may be met).

In sustained remission: After full criteria for inhalant use disorder were previously met, none of the criteria for inhalant use disorder have been met at any time during a period of 12 months or longer (with the exception that Criterion A4, "Craving, or a strong desire or urge to use the inhalant substance," may be met).

Specify if:

In a controlled environment: This additional specifier is used if the individual is in an environment where access to inhalant substances is restricted.

Code based on current severity/remission: If an inhalant intoxication or another inhalant-induced mental disorder is also present, do not use the codes below for inhalant use disorder. Instead, the comorbid inhalant use disorder is indicated in the 4th character of the inhalant-induced disorder code (see the coding note for inhalant intoxication or a specific inhalant-induced mental disorder). For example, if there is comorbid inhalant-induced depressive disorder and inhalant use disorder, only the inhalant-induced depressive disorder code is given, with the 4th character indicating whether the comorbid inhalant use disorder is mild, moderate, or severe: F18.14 for mild inhalant use disorder with inhalant-induced depressive disorder or F18.24 for a moderate or severe inhalant use disorder with inhalant-induced depressive disorder.

Specify current severity/remission:

F18.10 Mild: Presence of 2–3 symptoms.
F18.11 Mild, In early remission
F18.11 Mild, In sustained remission

F18.20 Moderate: Presence of 4–5 symptoms.
F18.21 Moderate, In early remission
F18.21 Moderate, In sustained remission

F18.20 Severe: Presence of 6 or more symptoms.
F18.21 Severe, In early remission
F18.21 Severe, In sustained remission

Specifiers

"In a controlled environment" applies as a further specifier of remission if the individual is both in remission and in a controlled environment (i.e., in early remission in a controlled environment or in sustained remission in a controlled environment). Examples of these environments are closely supervised and substance-free jails, therapeutic communities, and locked hospital units.

The severity of individuals' inhalant use disorder is assessed by the number of diagnostic criteria that are met. Changing severity of individuals' inhalant use disorder across time is also reflected by reductions in the frequency (e.g., days used per month) and/or dose (e.g., tubes of glue per day) used, as assessed by the individual's self-report, report of others, clinician's observations, and biological testing (when practical).

Diagnostic Features

Examples of inhalant substances include volatile hydrocarbons, which comprise toxic gases from glues, fuels, paints, and other volatile compounds. When possible, the partic-